COTC Course List 2020-21

ACCT-111 Financial Accounting ACCT-111 Financial Accounting 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: None. Course is graded A-F. This course focuses on the rules of financial accounting and reporting for the corporate form of business. The course begins with basic accounting procedures including journalizing transactions, adjusting accounts and preparing the trial balance. The course will then cover the preparation and analysis of the corporate balance sheet, income statement, statement of stockholders' equity and the statement of cash flows. Material covered will include receivables, inventory methods, internal control, plant and equipment and depreciation, current liabilities, long-term debt financing, equity financing, analysis of financial statements and investments in other corporations. ACCT-111 meets the Ohio Transfer Assurance Guide standards for course OBU010.

ACCT-122 Introductory Managerial Accounting ACCT-122 Introductory Managerial Accounting 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in ACCT-111. Course is graded A-F. This is a course of study that introduces managerial accounting for business entities. The course focuses on the role that accounting plays in managing a business and distinguishes between the differing information needs of internal management and external users of financial information. More specifically, the course begins by looking at an overview of managerial accounting as it relates to the management contexts of planning, control, decision making, and performance evaluation. Basic managerial accounting terminology and concepts are defined and applied to problems of management planning, control, decision making, and performance evaluation. In addition, an understanding of the relevance of other disciplines and how this understanding factors into to the process of providing information for management planning, control, decision making, and performance evaluation is critical and must be identified, discussed, and explained as part of the course. ACCT-122 meets the Ohio Transfer Assurance Guide standards for course OBU011.

ACCT-123 Principles of Finance ACCT-123 Principles of Finance 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in ACCT-111. Course is graded A-F. This course begins with an examination of the goals and functions of financial management. In addition, the course covers the following topics: financial analysis and planning; financial forecasting; operating and financial leveraging; working capital management; the time value of money and how it relates to the valuation process; the cost of capital; and the capital budgeting process.

ACCT-200 Automated Accounting Systems ACCT-200 Automated Accounting Operations 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in ACCT-111. Course is graded A-F. This course utilizes general ledger accounting software packages with text-workbooks to provide experience to the student in operating computerized, integrated accounting systems. The student will use automated accounting systems to work with general ledgers, accounts receivable systems, accounts payable systems, financial statements, and depreciation systems as an integrated whole. Fundamental coverage of payroll operations including federal, state and local legislation relating to computation and payment of employee wages and taxes will be covered. Employer responsibilities toward employees in terms of benefits, tax withholdings, remittances, and the appropriate reporting will also be addressed. The student will work with all steps in the accounting

cycle of a business in an automated environment to reinforce the student's knowledge of previously learned accounting principles and procedures thereby imparting a practical focus.

ACCT-231 Intermediate Accounting I ACCT-231 Intermediate Accounting I 4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in ACCT-111. Course is graded A-F. This course continues development of the theory and processes of accounting. Accounting functions emphasized include: balance sheets; income and retained earnings statements; analysis of working capital; methods of valuations; balance sheet presentation of cash, temporary investments, receivables, inventories, special valuation and cost measurement flow issues related to inventories; acquisition, disposal, depreciation, and other issues related to property, plant, and equipment; and acquisition, disposal, depletion, and other issues related to natural resources.

ACCT-232 Cost Management ACCT-232 Cost Management 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in ACCT-122. Course is graded A-F. This course takes a proactive contemporary approach to cost accounting that focuses on cost management. While the traditional approach is presented, a contemporary proactive approach is emphasized up front, and an integrated perspective of cost management is presented. This approach to cost management focuses on the impact of management decisions on cost drivers, costs, and profits. Although procedures will be presented, the topics will be discussed in a decision-making context. The focus in this course is clearly on providing leadership for management decisions.

ACCT-241 Intermediate Accounting II ACCT-241 Intermediate Accounting II 4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in ACCT-231. Course is graded A-F. This course is a continuation of Intermediate Accounting II and concludes the in-depth study of the balance sheet in the following areas: intangibles; classification, valuation, and other issues related to investments; current liabilities and contingencies; long-term liabilities; contributed capital; earnings per share and retained earnings; accounting for leases; and an exploration of the statement of cash flows.

ACCT-244 Individual Taxation ACCT-244 Individual Taxation 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: none. Course is graded A-F. This course presents the theory and practice of federal individual income taxation, and presents an in-depth study of gross income, inclusions, exclusions, deductions and losses, business expenses, depreciation and cost recovery, employee expenses, property transactions, tax credits and payment procedures. The student will prepare federal, state and city income tax returns for individuals.

ACCT-247 Auditing ACCT-247 Auditing 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in ACCT-231. Course is graded A-F. This course covers the theory and processes of auditing. Areas of study include the following: professional standards, professional ethics, legal liabilities, auditors' reports, work papers, the audit planning process, internal control evaluations, integrated audits, audit sampling, and fraud awareness auditing. Audit applications relating to the revenue and collection cycle and the acquisition and expenditure cycle will be discussed.

ACCT-261 Accounting Field Experience ACCT-261 Accounting Field Experience 2 credit hours, 13.00 contact hours (1 hour lecture, 0 hours lab and 12 hours field experience per week). Prerequisite: C grade (2.00) or better in ACCT-232 and ACCT-241. Course is graded S/U. This course is the

culmination of the many concepts learned throughout the education of Accounting Technology students. Activities and responsibilities will measure self-directed applications of learning. Upon completion of the course, the student will have an evaluation of and validation to the knowledge, skills, and abilities within the workplace. This appraisal will assist in both the professional and personal life of the student. The field experience requires that a student will complete 168 contact hours in an accounting environment. This course is graded on a Satisfactory/ Unsatisfactory basis. ACCT-261 replaces ACCT-260.

ANES-101 Introduction to Anesthesia Technology "ANES-101 Introduction to Anesthesia Technology 3.00 credit hours(3.00 hours lecture). Course Prerequisites: Admission to the Anesthesia Technology program. Co-requisite: ANES-102. Course is graded A-F. This course provides an introduction to anesthesiology's contribution to quality patient care and the relationship of the Anesthesia Technologist to other healthcare professionals. The course will focus on patient safety, universal precautions, and student safety in the healthcare environment."

ANES-102 Basic Principles for Anesthesia Technolo "ANES-102 Basic Principles for Anesthesia Technology 4.00 credit hours, 5.00 contact hours (3.00 hours lecture and 2 hours lab). Course Prerequisites: Admission to the Anesthesia Technology program. Co-requisite: ANES-101. This course is graded A-F. This course introduces the student to the theory and concepts of functioning in a surgical environment, including the relationship of the anesthesia technologist to other healthcare professionals."

ANES-103 Basic Equipment Principles for Anesthesi "ANES-103 Basic Equipment Principles for Anesthesia Technology 4.00 credit hours, 5.00 contact hours (3.00 hours lecture and 2 hours lab). Course Prerequisites: ANES-101, ANES-102, BIO-130. This course is graded A-F. This course offers an introduction to the theories and concepts in the appropriate function of anesthesia equipment, including a fundamental understanding of a variety of anesthesia equipment and basic case set-up utilizing anesthesia supplies and equipment."

ANES-104 Anesthesia Pharmacology "ANES-104 Anesthesia Pharmacology 4.00 credit hours, 4.00 contact hours (4.00 hours lecture). Course Prerequisites: ANES-101, ANES-102, ANES-103, BIO-131, HLT-120. Co-requisite: ANES-105. This course is graded A-F. This course provides an introduction to the theory and concepts in the proper use and safe practice of delivery and storage of anesthesia medications."

ANES-105 Anesthesia Technology Clinical I "ANES-105 Anesthesia Technology Clinical I 1.00 credit hours, 8.00 contact hours (8.00 hours of directed practice(Clinical). Course Prerequisites: ANES-101, ANES-102, ANES-103, BIO-131, HLT-120, MATH-140. This course is graded as satisfactory/unsatisfactory. This course provides the student with an experience in direct observation in the health care setting with a focus on anesthesia technology."

ANES-201 Advanced Principles & Equipment for AT "ANES-201 Advanced Principles & Equipment for AT 5.00 credit hours, 7.00 contact hours (4.00 hours lecture and 3 hours lab). Course Prerequisites: ANES-101, ANES-102, ANES-103, ANES-104, ANES-105. Co-requisite: ANES-202. This course is graded A-F This course continues instruction in the theory and concepts of anesthesia equipment, including those used in various surgical procedures"

ANES-202 Anesthesia Technology Clinical II "ANES-202 Anesthesia Technology Clinical II 3.00 credit hours, 13.00 contact hours (1.00 hour of lecture, 12.00 hours of directed practice(Clinical). Course Prerequisites: ANES-101, ANES-102, ANES-103. ANES-104. ANES-105. Co-requisite: ANES-201. This course is graded A-F This course provides clinical experience in a surgical setting. The student will have the opportunity to observe and practice specific anesthesiology skills."

ANES-203 "Anesthesia Clinical Practicum " "ANES-203 Anesthesia Clinical Practicum 6.0 credit hours, 20.0 contact hours (4.0 hour of lecture, 16.0 hours of directed practice(Clinical). Course Prerequisites: ANES-201, ANES-202, HLT-120, HLT-200. This course is graded A-F. This course provides clinical experience in a surgical setting."

ARCH-110 CAD Fundamentals ARCH-110 CAD Fundamentals 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: None. Course is graded A-F. This course covers two-dimensional drawing, viewing and editing commands of the CAD system. The student will learn to construct dimensioned orthographic and will gain familiarity with the system hardware, peripherals and software. ARCH-110 replaces DDT-3706 Introduction to CAD and DDT-3707 Intermediate CAD in the Quarter system. Completion of ARCH-110 and ARCH-111 Advanced CAD meet the Ohio Transfer Assurance Guide standards for course OET012 and also meet the Career Technical Credit Transfer (C-TAG) standards for course CTMET005.

ARCH-111 Advanced CAD ARCH-111 Advanced CAD 2 credit hours, 3 contact hours (1 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in ARCH-110. Course is graded A-F. This course, the second in a series, builds on the concepts of CAD Fundamentals and covers advanced topics including customizing various aspects of the CAD drawing environment and the third dimension. ARCH-111 replaces DDT-3707 Intermediate CAD and DDT-3708 Advanced CAD in the Quarter system. Completion of ARCH-111 and ARCH-110 CAD Fundamentals meet the Ohio Transfer Assurance Guide standards for course OET012 and also meet the Career Technical Credit Transfer (C-TAG) standards for course CTMET005.

ARCH-116 3D Design with SketchUp ARCH-116 3D Design with SketchUp 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: None. Course is graded A-F. This course covers techniques for quickly and easily conceptualizing, creating and presenting three-dimensional ideas using SketchUp software. The student will gain a sound foundation and working knowledge of SketchUp with the primary focus being on the creation of objects, buildings, and landscapes through 3D computer modeling.

ARCH-126 Revit Architecture "ARCH-126 Revit 2.00 credit hours, 3.50 contact hours (0.50 hours lecture and 3.00 hours lab). Prerequisite: C grade (2.00) or better in ARCH-110. Course is graded A-F. This course introduces Revit, an object-based ""Building Information Modeling"" (BIM) computer program used by Architects and building designers. In this lab-based course, the student will explore Revit and gain experience in its concepts and capabilities. Through a series of hands-on lessons, the student will create a detailed computer model of a building. The program will then be used to develop a set of construction drawings generated from the building model."

ARCH-136 Technical Drawing ARCH-136 Technical Drawing 2 credit hours, 3.50 contact hours (0.50 hours lecture and 3.00 hours lab). Prerequisite: None. Course is graded A-F. This course is an introduction to basic techniques used to communicate with technical drawings utilizing both sketching

and drafting with instruments. The course presents information and skill building in the graphic language of orthographic views, auxiliary views, dimensioning, sections, and pictorial views.

ARCH-168 Construction Materials ARCH-168 Construction Materials 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: None. Course is graded A-F. In this course, the fundamental characteristics of the most frequently used materials in modern construction are presented. Materials research, selection, proper use of materials, construction methods, and detailing practices are investigated. ARCH-168 meets the Ohio Transfer Assurance Guide standards for OET116 and the Career-Technical Transfer Credit CTCON003.

ARCH-176 Architecture History Survey ARCH-176 Architecture History Survey 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course is a survey of architectural traditions from early civilization to the modern architecture of the 21st Century, including buildings, landscape and planning. ARCH-176 meets the Ohio Transfer Module standards requirements (OTM) TMAH-Transfer module arts and humanities.

ARCH-190 Architecture I ARCH-190 Architecture I 3 credit hours, 5 contact hours (1 hour lecture and 4 hours lab). Prerequisite: C grade (2.00) or better in ARCH-110. Course is graded A-F. In this course the student is given a sequence of drafting and design projects involving the development of a set of residential working drawings. In addition, the course explores residential design and the history of American house styles. Computer Aided Drafting is introduced and used in the production of assigned drawings.

ARCH-230 Building Mechanical Systems ARCH-230 Building Mechanical Systems 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in ARCH-110. Course is graded A-F. Plumbing, electrical and HVAC systems for buildings are the focus of this course, as well as, standard drafting practices for plumbing, electrical and HVAC plans.

ARCH-249 Construction Compliance ARCH-249 Construction Compliance 3 credit hours, 5 contact hours (1 hour lecture and 4 hours lab). Prerequisite: None. Course is graded A-F. This course is an overview of codes, regulations and initiatives governing the modern construction project. The course also explores construction management and its relationship to the process of building.

ARCH-290 Architecture II ARCH-290 Architecture II 3 credit hours, 5 contact hours (1 hour lecture and 4 hours lab). Prerequisite: C grade (2.00) or better in ARCH-126. Course is graded A-F. This Architectural design and drafting course focuses on commercial construction. BIM software is used to produce a series of working drawings as typically found for a small commercial project. The design process is reinforced and building codes are investigated as they apply to the design of the project.

ASL-104 Beginning American Sign Language I ASL-104 BEGINNING AMERICAN SIGN LANGUAGE I 3.00 credit hours, 3.00 contact hours (3 hours lecture, 0 hours lab). Prerequisite: None. Course is graded A-F. American Sign Language I is an introduction into the world of deafness. This course focuses on the basics of American Sign Language, the natural language used by deaf individuals and the deaf community. The students will focus on the grammatical structure of ASL and will begin to develop both receptive and expressive skills in ASL. The class will focus on fingerspelling, numbers, basic time concepts, colors, introductions, exchange personal information, talk about people and family members, descriptive vocabulary, and basic sentences and phrases used in everyday situations. Deaf

culture, it's characteristics and Deaf History will also be discussed. ASL-104 replaces ASL-101 Beginning American Sign Language I in the semester system. ASL-104 meets the Ohio Transfer Assurance Guide standards for course OFL025.

BIO-010 Introduction to Human Biology BIO-010 Introduction to Human Biology 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Recommend completion of or concurrent enrollment in pre-college or college-level composition course. This course will count neither for elective credit nor toward meeting minimum credit hours for graduation. Course is graded A-F. This pre-college course is an introduction to human biology as presented through the study of the human body. The course is designed for students planning entry into a technology requiring an understanding of human structure and function or familiarity with anatomical and physiological terminology. BIO-010 is a pre-college course. Credit for this course will count neither for elective credit nor toward meeting minimum credit hours for graduation.

BIO-105 Environmental Science BIO-105 Environmental Science 4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: None. It is highly recommended that a pre-college or college-level composition course be completed prior to enrolling in BIO-105. Course is graded A-F. The course is an introduction to environmental science with an emphasis on the complexity and interrelatedness of environmental issues, concerns, problems and economics. The impact of humans on ecosystems, resources, energy and the environment are presented. Special reference is made to the significance of sustainability and the problems of pollution, waste management, hazardous and toxic materials. The roles of business, industry and government related to the environment will be addressed. BIO-105 meets the standards for Ohio Transfer Module Natural Sciences and the Ohio Career-Technical Assurance Guide standards for CTNRM001.

BIO-120 General Biology BIO-120 General Biology 4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better of 1 full unit of a high school biology or BIO-005 or BIO-010. Recommended completion of this course for the student who must take BIO-130 and BIO-131. Recommend completion of or concurrent enrollment in pre-college or college-level composition course. Course is graded A-F. This course introduces the major concepts and principles of biology, emphasizing inorganic, organic and biochemistry processes and concepts, cell structure and function, DNA function and technology, genetics, diversity of all living organisms, and ecology. The laboratory portion enhances the theories and concepts presented in lecture. BIO-120 meets the Ohio Transfer Module standards for Natural Sciences.

BIO-121 Human Biology BIO-121 Human Biology 4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better of 1 full unit of a high school biology or BIO-005 or BIO-010. Recommend completion of high school chemistry. Recommend completion of or concurrent enrollment in a pre-college or college-level composition course. Course is graded A-F. Human Biology examines anatomy, function, and physiology for all body systems and components as well as reviews human development, aging, principles of inheritance and genetic disorders. Laboratory studies will involve the application of lecture materials through the use of a variety of laboratory learning resources. BIO-121 meets the Ohio Transfer Module standards for course TMNS.

BIO-130 Anatomy and Physiology I BIO-130 Anatomy and Physiology I 4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: [One full unit of high school biology or BIO-010] and one full unit of a [C grade (2.00) or better in high school chemistry or CHEM-020].

Recommend completion of or concurrent enrollment in a pre-college or college level composition course. Course is graded A-F. Anatomy and Physiology I is the first course in a two semester sequence that explores the structure and function of the human body. Laboratory studies will involve the application of lecture materials through the use of microscopy, dissection, and examination of anatomical models. BIO-130 meets the Ohio Transfer Module standards for course TMNS.

BIO-131 Anatomy and Physiology II BIO-131 Anatomy and Physiology II 4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in BIO-130. Recommend completion of or concurrent enrollment in a pre-college or college level composition course. Course is graded A-F. Anatomy and Physiology II is the final course in a two semester sequence that explores the structure and function of the human body. Laboratory studies will involve the application of lecture materials through the use of microscopy, dissection, and examination of anatomical models. BIO-131 meets the Ohio Transfer Module standards for course TMNS.

BIO-160 Biology I BIO-160 Biology I 5 credit hours, 7 contact hours (4 hours lecture and 3 hours lab). Prerequisite: [C grade (2.00) or better in high school biology or BIO-010] and [C grade (2.00) or better in high school chemistry or CHEM-010] and [C grade (2.00) or better in MATH-080 or appropriate placement per COTC Assessment and Placement policy. Recommended completion of or concurrent enrollment in a pre-college or college level composition course. Course is graded A-F. This course explores general biological problems and processes as they are experienced by all living organisms: the chemistry and energetics of life, molecular genetics, cellular reproduction, and evolution. The laboratory portion enhances the theories and concepts presented in lecture. This is the first of a two-semester sequence - Biology I (BIO-160) and Biology II (BIO-161). BIO-160 meets the Ohio Transfer Assurance Guide standards for course OSC003 and in combination with BIO-161, TAG OSC024. BIO-160 meets the Ohio Transfer Module Natrual Sciences standards.

BIO-161 Biology II BIO-161 Biology II 5 credit hours, 7 contact hours (4 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in BIO-160. Course is graded A-F. The course explores general biological relationships and processes for all living organisms: plant and animal diversity, evolution, basic plant and animal systems, hormones, and immunology. The laboratory portion enhances the theories and concepts presented in lecture. BIO-161 meets the Ohio Transfer Assurance Guide standards for course OSC004 and in combination with BIO-160, TAG OSC024.

BIO-200 Microbiology BIO-200 Microbiology 4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in (BIO-120 or BIO-121 or BIO-130 or BIO-160). Recommend completion of or concurrent enrollment in a pre-college or college level composition course. Course is graded A-F. This course is a survey of the microbial world including types of microbes, microbial metabolism, genetics, growth, host/ microbe interactions, immunology, and diseases of the body systems. The laboratory portion of this course enhances the theories and concepts presented in the lecture portion of the course. BIO-200 meets the Ohio Transfer Module standards for course TMNS.

BUS-106 Introduction to Business BUS-106 Introduction to Business 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course introduces business principles, terminology, and concepts. Upon completion of the course, the student will have a better understanding of the various elements of the business environment including, but not limited to forms of ownership, business ethics, global business, marketing, management, economics, accounting, finance, production, and technology. BUS-106 replaces BUS-105 Introduction to Business.

BUS-110 Management and Organizational Behavior BUS-110 Management and Organizational Behavior 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. The basic functions of management are planning, organizing, leading, and controlling. The course examines these four functions in considerable detail, and attempts to give the student insight and perspective on management in action. There is an emphasis on current case material so the student can relate principles to real-world management problems. BUS-110 meets the Ohio Transfer Assurance Guide standards for course OBU012.

BUS-115 Introduction to Marketing BUS-115 Introduction to Marketing 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in ECON-105. Course is graded A-F. This course introduces the student to the marketing field and the components of the marketing process. The course focuses on the creation of value through a product or service, as well as the benefits of the product or service to consumers. The importance of advertising and branding through both traditional and emerging media/technologies will be emphasized in this course, and the class will culminate with the student creating and presenting a marketing plan. BUS-115 meets the Ohio Transfer Assurance Guide standards for course OBU006.

BUS-120 Business Law BUS-120 Business Law 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course presents the student with a survey of the legal environment for business in today's world. Topics of study include civil law and torts, criminal law, constitutional law, cyber law, contract law, sales law, corporate law and securities regulation, negotiable instruments, consumer law, and employment law. The focus of the course will be for the student to identify the relevance of various types of law and legal issue in the current business environment. BUS-120 meets the Ohio Transfer Assurance Guide standards for course OBU004.

BUS-125 PC Applications in Business BUS-125 PC Applications in Business 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: None. Basic computer and keyboarding skills strongly recommended. Course is graded A-F. This course is designed to give the student standardized, progressive, detailed, hands-on instruction and application in the most popular personal computer software applications used today by business and industry. The student will demonstrate the ability to integrate word processing, spreadsheet, database and presentation design and development through projects and exercises. Current topics that have an impact on information systems, such as cyber security, will be addressed, as well as how to choose the best electronic mail option available. The course combines demonstration and self-paced instruction along with team projects and exercises. Bus-125 meets the Ohio Transfer Assurance Guide standards for course OBU003.

BUS-130 Team Building BUS-130 Team Building 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This introductory course explains the principles, terminology, and concepts necessary for developing team building skills in business relationships and environments. Activities and presentations are provided to the student that will allow him or her to learn group-processing skills vital to effective team work; including communication, decision making, and problem solving with conflict resolution. Upon completion of the course, the student will have a better understanding of the effects of individual behavior on group productivity, this awareness assisting in both the student's personal and professional life.

BUS-135 Introduction to Human Resources BUS 135 Introduction to Human Resources 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-

F. This introductory course explains the vital role of human resource management in determining the success of an organization. Activities and presentations are provided to the student that will allow him or her to develop an awareness of the complexity of the issues surrounding the management of today's employees. Upon completion of the course, the student will have a better understanding of employee rights, employee responsibilities, equal employment opportunities, right to work laws, legal environments, performance appraisal, and the training and development of employees. This awareness will assist in both the student's personal and professional life.

BUS-151 Documentation & Presentation Applicatio BUS-151 Documentation and Presentation Applications 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: None. Basic computer and keyboarding skills are strongly recommended. Course is graded A-F. This course provides the student the opportunity to develop the comprehensive skills necessary to create and use electronic presentation and word processing software efficiently. It is designed to take the student step-by-step through the features of electronic presentation and word processing software from basic to advanced. Practical and in-depth presentations and documents will be completed by the student. BUS-151 replaces BUS-150 Document Applications and BUS-165 Presentation Applications.

BUS-156 Spreadsheet Applications BUS-156 Spreadsheet Applications 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: None. Basic computer and keyboarding skills are strongly recommended. Course is graded A-F. This course provides the student the opportunity to develop the skills necessary to create and use spreadsheets efficiently in a business environment. It is designed to take the student step-by-step through the features of Microsoft Excel, from basic through advanced. Numerous practical in-depth spreadsheets will be completed throughout the course including creating, editing and formatting spreadsheets and workbooks as well as the creation and application of basic and advanced formulas and functions. The course will also explore advanced spreadsheet development techniques, chart and graph development and enhancement, working with templates and workbooks and team collaboration and file sharing. BUS-156 replaces BUS-155 Spreadsheet Applications.

BUS-207 Business & Professional Communication BUS-207 Business and Professional Communication 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in ENGL-112. Course is graded A-F. Business and Professional Communication strengthens the student's composition skills and provides the student with a comprehensive view of communication, its scope and impact in the real-world workplace. The course emphasizes the role and complexities of both written and spoken communications. The student will analyze a variety of internal and external business communications and determine the appropriate channels to convey information, to persuade an audience, and to compose inter- and out-of-office business correspondence. Various types of business media will be utilized, including the Internet, PowerPoint, and emerging technology. The course will culminate in a Web 2.0-based portfolio. BUS-207 replaces ENGL-207 Business and Professional Communications and ENGL-205 Business and Professional Communications. BUS-207 meets the Ohio Transfer Assurance Guide standards for course OBU005.

BUS-208 Financial Business Practices "BUS-208 Financial Business Practice 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course introduces the basics of financial management for individuals and businesses. The student will

learn how to assemble and interpret financial information and solve problems related to the time value of money. The student will also survey the basics of income taxes, cash management, financing options, investing in securities markets and mutual funds, and how to enter data and create reports in QuickBooks."

BUS-210 Entrepreneurship BUS-210 Entrepreneurship 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. The student will be introduced to the concepts, theories and skill set requirements of entrepreneurship. The student will participate in the steps of creating and implementing a small business venture. During the process, the student will develop entrepreneur skills by recognizing business opportunities, identifying sources of financial support, and labeling constraints of implementing and marketing the new venture. BUS-210 meets the Ohio Career-Te hnical Assurance Guide standards for CTENTR001.

BUS-215 E-Commerce BUS-215 E-Commerce 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Recommend successful completion of BUS-105 and BUS-110 prior to enrolling in BUS-215. Course is graded A-F. This course explores the definition, concept and technology of E-Commerce. The course material identifies the required skills, knowledge and practices necessary to participate in E-Commerce. The student will review E-Commerce systems, regulatory, legal and Internet issues, and be able to identify resources in both traditional and web-based business. The student will study both organizational and external factors that create the environment in which E-Commerce systems operate.

BUS-220 Human Resource Law/Policies/Procedures BUS-220 Human Resource Law, Policies and Procedures 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course will develop the student's skills regarding safety, security, and the legal requirements that govern the workplace. The student will interpret and analyze security and safety solutions used in an organization, along with employment law as it pertains to human resources within an organization. Upon completion of the course, the student will have a complete assessment of the role of safety, security and employment law within an organization.

BUS-226 21st Century Workplace Skills "BUS-226 21st Century Workplace Skills 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. The student will review knowledge and gain skills necessary for success in today's business workplace. The student will discuss best practices in customer service that lead to customer loyalty. The student will review current business interviewing techniques and counseling within an organization, which contribute to employee commitment. The student will develop skills in ethical leadership when presented with challenges managers must make in today's workplace that relate to the topics of the course."

BUS-231 Training,EmployeeRelations&Compensaton "BUS-231 Training, Labor Relations and Compensation 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course will develop the student's skills regarding training, labor relations, and compensation that govern the workplace. The student will interpret and analyze training concepts, labor relations, and compensation solutions used in an organization, along with employment issue as they pertain to management development within an organization. Upon completion of the course, the student will have a complete assessment of the role of training, labor

relations, and compensation within an organization. BUS-231 replaces BUS-230 Compensation and Benefits, and BUS-235 Labor Relations."

BUS-240 Retail Management BUS-240 Retail Management 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course will categorize the important developments in retailing and service marketing concerning concepts and strategies. There will be an emphasis on retail operations, decision making tools for the supply chain, how merchandise is purchased, how customer databases are established, decision support systems, service quality and customer service in the retailing industry.

BUS-245 Cases in Marketing Research BUS-245 Cases in Marketing Research 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in BUS-115. Course is graded A-F. This course will interpret the scope of marketing research concerning applied research approaches with practical applications. Upon completion of the course, the student will have a complete justification of research and its applications within the marketing field.

BUS-250 Managerial Problem Solving BUS-250 Managerial Problem Solving 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Recommend successful completion of BUS-105 and BUS-110 prior to enrolling in BUS-250. Course is graded A-F. This course will provide an opportunity for the student to integrate knowledge and skills gained in previous courses in management, marketing, human resources, and finance. Emphasis is placed upon familiarization with the types of decisions that managers must make and the development of skills necessary to make them.

BUS-255 Strategic Management BUS-255 Strategic Management 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. Strategies an organization pursues have a major impact upon its performance relative to that of its competitors. This course identifies and describes the various strategies a company can pursue to achieve superior performance. Strategies apply to all types of organizations. A thorough understanding of the analytical techniques and skills necessary by managers to identify and exploit long term strategies successfully will be applied.

BUS-270 Business Portfolio II BUS-270 Business Portfolio II 1 credit hour, 1 contact hour (1 hour lecture and 0 hours lab). Prerequisite: Satisfactory grade in BUS-170. It is recommended that this course be taken in the student's last semester before completion of the Business Management Technology program. Course is graded S/U. A studio course in which the student will apply skills learned from previous courses and use the knowledge, skills and abilities obtained to compile a professional business portfolio which showcases their artifacts and career preparedness skills. The student will organize, refine and amend their professional business portfolios and/or webfolios and arrange for review and comment from instructor and peer groups. The student will perform interview simulations pertaining to the contents and applications of works compiled. The student will publish their final career portfolio for peer group review as well as for final instructor evaluation and comment. This course is graded on a Satisfactory/ Unsatisfactory basis.

BUS-296 Business Field Experience I BUS-296 Business Field Experience I 1.50 credit hours, 7.00 contact hours (1 hour lecture, 0 hours lab and 6 hours field experience per week). Prerequisite: BUS-106; BUS-110; BUS-115; BUS-125; BUS-135. Course is graded A-F. The Business Management Technology program field experience requirement mandates that a student complete 12 total contact hours per week in a field experience setting. BUS-296 has 6 hours per week field experience for one

semester and can be taken once along with BUS-297 to complete the entire field experience requirement or a student could elect to take BUS-298 in one semester to complete the field experience requirement instead. This course assesses the concepts and ideals learned in an actual management field. Activities and responsibilities will measure self-directed applications of learning. Upon completion of the course, the student will have an evaluation of and validity to the knowledge, skills and abilities within the workforce. This appraisal will assist in both the student's personal and professional life. BUS-296 replaces BUS-290 Field Experience I and BUS-293 Business Internship/ Service Learning.

BUS-297 Business Field Experience II BUS-297- Business Field Experience II 1.50 credit hours, 7.00 contact hours (1 hour lecture, 0 hours lab and 6 hours field experience per week). Prerequisite: BUS-106; BUS-110; BUS-115; BUS-125; BUS-135. Course is graded A-F. The Business Management Technology program field experience requirement mandates that a student complete 12 total contact hours per week in a field experience setting. BUS-297 has 6 hours per week field experience for one semester and can be taken once along with BUS-296 to complete the entire field experience requirement or a student could elect to take BUS-298 in one semester to complete the field experience requirement instead. This course assesses the concepts and ideals learned in an actual management field. Activities and responsibilities will measure self-directed applications of learning. Upon completion of the course, the student will have an evaluation of and validity to the knowledge, skills and abilities within the workforce. This appraisal will assist in both the student's personal and professional life. BUS-297 replaces BUS-291 Field Experience II and BUS-294 Business Internship/ Service Learning.

BUS-298 Business Field Experience III BUS-298- Business Field Experience I 2 credit hours, 13.00 contact hours (1 hour lecture, 0 hours lab and 12 hours field experience per week). Prerequisite: BUS-106; BUS-110; BUS-115; BUS-125; BUS-135. Course is graded A-F. The Business Management Technology program field experience requirement mandates that a student complete 12 total contact hours per week in a field experience setting. BUS-298 taken in one semester fulfills the field experience requirement, or a student could take BUS-296 and BUS-297 over two semesters to complete the field experience requirement instead. This course assesses the concepts and ideals learned in an actual management field. Activities and responsibilities will measure self-directed applications of learning. Upon completion of the course, the student will have an evaluation of and validity to the knowledge, skills and abilities within the workforce. This appraisal will assist in both the student's personal and professional life. BUS-298 replaces BUS-292 Field Experience III and BUS-295 Business Internship/ Service.

CERM-120 Introduction to Ceramic Engineering "CERM-120 Introduction to Ceramic Engineering 3 credits, 3 contact hours. (3hours of lecture). Course Prerequisite: None. Course is graded A-F. Course Description: This course provides an introduction to ceramic engineering. Ceramic engineering is defined. The basics of atomic bonding and crystal chemistry are introduced. Non-crystalline structures are also introduced. This course also includes basic phase equilibria concepts and diagrams. Present and future applications of engineered ceramics are explored. CERM-120 Introduction to Ceramic Engineering is a new semester course."

CERM-140 Ceramics Processing "CERM-140 Ceramic Processing 4 credit hours, 6 contact hours (2hours of lecture, 4 hours of lab) Course Prerequisite: C grade (2.00) or better or concurrent enrollment in CHEM-100; C grade (2.00) or better or concurrent enrollment in MATH-150. Course is graded A-F. This course covers the general ceramic processing methods. Powder preparation and sizing

methods are explored. Various shape forming technologies, including pressing, casting, and plastic forming are covered. The drying and densification processes are also described. CERM-140 Ceramic Processing is a new semester course."

CERM-230 Rate Processes in Ceramics "CERM-230 Rate Processes in Ceramics 2 credit hours, 2 contact hours (2 hours of lecture). Course Prerequisite: C grade (2.00) or better in CERM-140. Course is graded A-F. Course Description: This course covers the kinetics of materials. Both the thermodynamics and kinetics are discussed. Basic concepts of diffusion, phase transformations, and surface energies are covered. Sintering and crystal growth theories are explained. CERM-230 Rate Processes in Ceramics is a new semester course."

CERM-250 Characterization of Ceramics "CERM-250 Characterization of Ceramics 3 credit hours, 5 contact hours (1 hr of lecture, 4hr of lab). Course Prerequisite: C grade (2.00) or better in CERM-140. Course is graded A-F. Course Description: This course covers microscopy and x-ray diffraction methods that are used for the characterization of microstructural and phase development in ceramic materials. Optical and electron microscopy principles are applied to ceramic microstructural development. X-ray diffraction methodology for phase development is also studied. Laboratory exercises provide students with hands-on experience. CERM-250 Characterization of Ceramics is a new semester course."

CERM-260 Properties of Ceramics "CERM-260 Properties of Ceramics 5 credit hours, 7 contact hours (3 hours of lecture, 4 hours of lab). Course Prerequisite: C grade (2.00) or better in CERM-140. Course is graded A-F. Course Description: This course covers the thermal, mechanical, electrical, and magnetic properties of ceramics. The fundamental concepts of each property are discussed in terms of property-microstructure relationships. This course also introduces the common measurement techniques for each property. CERM-260 Properties of Ceramics is a new semester course."

CERM-280 Design With Ceramics "CERM-280 Design with Ceramics 2 credit hour, 2 contact hours. (2 hours of lecture). Course Prerequisite: C grade (2.00) or better in CERM-140; C grade (2.00) or better or concurrent enrollment in CERM-260. Course is graded A-F. Course Description: This course covers the design of ceramic materials for various applications. Design considerations and approaches are explored. Typical failure modes of brittle materials are studied. This course also introduces quality control and assurance procedures. Extensive case studies are explored that illustrate the basic design principles. CERM-280 Design with Ceramics is a new semester course."

CHEM-020 Intro to Chemistry Principles CHEM-020 Introduction to Chemistry Principles 4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: None. Recommend completion of or concurrent enrollment in a pre-college or college-level composition course. Course is graded A-F. Introduction to Chemistry Principles is a pre-college course designed to serve as a foundation for the student about to enter the study of allied health sciences or college-level science courses. Credit for this course will count neither for elective credit nor toward meeting minimum credit hour requirements for graduation. CHEM-020 replaces CHEM-010 Introduction to Chemistry Principles. CHEM-020 is a pre-college level course. Credit for these courses will count neither toward elective credit nor toward meeting minimum credit hour requirements for graduation.

CHEM-100 Basic Chemistry CHEM-100 Basic Chemistry 4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in MATH-080 or appropriate placement

per COTC Assessment and Placement policy. Course is graded A-F. This course discusses measurement systems, atomic and nuclear structure, bonding, chemical reactions and energy, and concludes with discussions of gasses and the gas laws, solutions, equilibrium, and acids and bases. CHEM-100 meets the Ohio Transfer Module standards for course TMNS.

CHEM-101 General Organic Chemistry CHEM-101 General Organic Chemistry 4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in CHEM-100. Course is graded A-F. The course discusses the structures, reactions, properties and naming of simple organic compound classes, including hydrocarbons, working up to the more complex biological compounds. The laboratory portion of this course enhances the theories and concepts presented in lecture. CHEM-101 meets the Ohio Transfer Module standards for course TMNS.

CHEM-110 Chemistry I CHEM-110 General Chemistry I 5 credit hours, 7 contact hours (4 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in high school chemistry or CHEM-020 and C grade (2.00) or better in MATH-140 or MATH-150 or appropriate placement per COTC Assessment and Placement policy. Course is graded A-F. An introduction to the basic concepts of chemistry designed for the student pursuing an Associate of Science degree and/or interested in transfer credit. The course includes the following topic areas: matter and measurement, significant figures, atomic and molecular structure, chemical formulas and equations, stoichiometry, solutions, thermochemistry, quantum theory, periodic properties, and chemical bonding theory. Problem solving during the course will develop analytical and interpretive skills and apply algebraic techniques. Laboratories will apply the principles learned in lecture, develop safety awareness, and enhance analytical, preparative and interpretive skills. Safety training and goggles are required for laboratory sessions. CHEM-110 meets the Ohio Transfer Assurance Guide standards for courses OSC008.

CHEM-111 Chemistry II CHEM-111 General Chemistry II 5 credit hours, 7 contact hours (4 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in CHEM-110. Course is graded A-F. A continuation of General Chemistry I designed for the student pursuing an Associate of Science degree and/or interested in transfer credit. The course includes the following topic areas: intermolecular forces, properties of solutions, chemical kinetics, chemical equilibrium, chemical thermodynamics, acid-base equilibria, buffers and electrochemistry. Problem solving during the course will develop analytical and interpretive skills and application of algebraic techniques. Laboratories will apply the principles learned in lecture, develop safety awareness, and enhance analytical, preparative and interpretive skills. Safety training and goggles are required for laboratory sessions.

CIT-100 Principles of Computer Programming CIT-100 Principles of Computer Programming 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. This course introduces the student to the logic of computer programming. Through the use of flowcharts, pseudocode, and a programming language, the student develops algorithms for solutions to real-world programming problems. Object Oriented programming topics will be discussed. Hands-on lab exercises allow the student to apply the algorithms to real computer programs. CIT-100 replaces CIT-105 Principles of Computer Programming.

CIT-101 User Support Concepts CIT-101 User Support Concepts 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: None. Course is graded A-F. This course introduces the student to user support concepts as related to Information Technology. Concepts include operations, processes, procedures, tools and technologies that are used to support end users. In addition, the help desk

setting, roles and responsibilities of user support personnel, and end user conflicts and resolution are discussed. Real-world scenarios and hands-on exercises allow the student to practice implementing user support techniques. CIT-101 meets the Career Technical Credit Transfer (C-TAG) standards for course CTIT006

CIT-103 Technology Integration Support CIT-103 Technology Integration support 3 credit hours, 5 contact hours (1 hour lecture and 4 hours lab. Prerequisite: None. Course is graded A-F. This course introduces the student to the installation, integration and troubleshooting of home computer systems, audio/ video, cable/ satellite, telecommunication, security and lighting systems. This course prepares the student for industry approved certification.

CIT-111 Operating Systems & Security CIT-111 Operating Systems & Security 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. This course offers a broad survey of common Operating Systems including the history, types, and functions of operating systems. The student will be introduced to command line statements used for configuring operating systems. System security issues will be covered, including the skills needed for planning, implementing and auditing a system's security. CIT-111 replaces CIT-110 Operating Systems and Security. CIT-111 meets the Ohio the Career Technical Credit Transfer (C-TAG) standards for course CTIT005

CIT-120 PC Hardware:Troubleshooting&Maintenance CIT-120 PC Hardware Troubleshooting and Maintenance 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. This course covers the study of microcomputer systems. Both hardware and software aspects of a microcomputer system and the theory behind them are studied. These topics are reinforced by hands on lab experiments. The student will gain knowledge and experience to take the Comp TIA A+ Essentials certification exam.

CIT-126 Networking CIT-126 Networking 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. This course introduces the student to networking with an emphasis on the basic infrastructure. Subjects covered include cabling, connectors, Ethernet Standards, networking components and devices, OSI Model and protocols, TCP/IP routing and addressing, LAN and WAN technologies, wireless networking, security, and troubleshooting. The student will install a network and set up the working environment. In addition, the student will learn to detect and correct software and hardware errors associated with network components and applications. This course prepares the student to study and take the CompTIA Network+ certification exam. CIT-126 replaces CIT-125 Networking. CIT-126 meets the Ohio the Career Technical Credit Transfer (C-TAG) standards for course CTIT002.

CIT-130 Visual Basic I CIT-130 Visual Basic I 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in CIT-100. Course is graded A-F. The student will design and write programs using Visual Basic programming features which include the ability to create and integrate text and graphics in an interactive environment. File handling will include the creation and maintenance of sequential and indexed files as well as the integration of databases. Object oriented programming concepts are introduced and structured programming techniques are emphasized with the student writing and executing a variety of programs for business and scientific applications.

CIT-142 JAVA Programming "CIT-142 Java Programming 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in CIT-100. Course is graded A-F. This

course introduces the student to the Java programming language. Java data types, control structures and classes will be covered. The student will write console and window application programs to solve problems as well as create mobile apps for mobile devices. CIT-142 replaces CIT-140."

CIT-150 Internet Programming I CIT-150 Internet Programming I 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in CIT-100 OR CIT-105. Course is graded A-F. This course is an introduction to webpage design and development for static and dynamic contents. The student will be introduced to HTML/XHTML, CSS, and a scripting language such as JavaScript. The emphasis is on client-side webpage programming.

CIT-160 Database CIT-160 Database 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. This course emphasizes the principles and procedures of how records are created, stored, retrieved, retained, and disposed of using standard database software programs. The student will gain an understanding of the basics of database design and the very specific relationships among objects which comprise a database. In addition, students will retrieve database records using SQL and T-SQL queries.

CIT-200 .NET Programming CIT-200 .NET Programming 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in CIT-100. Course is graded A-F. This course introduces the student to .NET Programming through the overview of, and hands-on experience with, the suite of programming tools provided by Microsoft Visual Studio. Object oriented programming is emphasized with a focus on Visual C#. Students will also be introduced to software version control techniques. CIT-200 replaces CIT-205 Advanced C++.

CIT-215 IT Project Management CIT-215 IT Project Management 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: None. Course is graded A-F. The student will learn about the design, development and management aspects of various IT related projects. This course introduces the student to IT project management including business concepts, interpersonal skills and project management techniques required to successfully manage IT projects. Topics and projects incorporate project management principles, conflict resolution, negotiation, communication, team building/leadership and expectation setting and management.

CIT-220 System Analysis & Design CIT-220 Systems Analysis and Design 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in CIT-100. Course is graded A-F. This course is an overview of the system development methodology and its use in the implementation of new computer systems. The student plays a role as a systems analyst using data modeling, process modeling, feasibility analysis, information system modeling, and input and output design. The student learns and applies normalization, uses various modeling structures and examines the pros and cons of conventional file systems in comparison to a distributed database. CIT-220 replaces CIT-210 Systems Analysis and Design.

CIT-240 IT Specialist Capstone CIT-240 IT Specialist Capstone 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in CIT-215. Course is graded A-F. This course is designed to allow the student to work individually or in small groups to complete a major, independent project or group of projects that builds upon and summarizes elements of the IT Specialist plan of study.

CIT-250 Internet Programming IICIT-250 Internet Programming II 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in CIT-150. Course is graded A-F. This course is a continuation of CIT-150 Internet Programming I with an emphasis on Server-Side programming and e-commerce. The course focuses on using Active Server Pages (ASP.Net) to create dynamic, interactive web content. Course content includes the introduction of the extensible Markup Language (XML) and database communication mechanisms.

CIT-255 Internet Programming III CIT-255 Internet Programming III 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in CIT-250. Course is graded A-F. This project-based course is a continuation of the Internet Programming series with an introduction to web content management systems (CMS), and the integration of web services. The course includes the design, creation, testing, use and management of web application programming interfaces (APIs) for integrating end-user applications such as Google Maps, Twitter, Facebook, etc. into websites. A server-side scripting language such as PHP will be used to implement interactive features on the websites.

CIT-265 Disaster Recovery & Business ContinuityCIT-265 Disaster Recovery and Business Continuity 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: None. Course is graded A-F. This course examines the aspects of contingency planning operations with an emphasis on IT related business continuity plans. Demonstrations and hands-on practice will reinforce topics such as incident response-prevention, detection, reaction, disaster recovery, and business continuity. Upon completion, the student will be able to provide documentation for a disaster recovery plan.

CIT-270 Programming & Software Develop Capstone CIT-270 Programming & Software Development Capstone 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in CIT-160. Course is graded A-F. This course introduces the student to the application of computer programming using a relational database and system development concepts, principles and practices to create a comprehensive system development project. The student is required to analyze, design, program, test and document realistic systems using a specified current database technology. The student works on an independent-study basis with the guidance of the faculty.

CIT-291 It Internship (practicum) CIT-291 IT Internship (Practicum) 2 credit hours, 8 contact hours (1 hour lecture, 0 hours lab, and 7 hours per week of practicum [internship] experience). Prerequisite: None. Course is graded S/U. This course offering is composed of a non-paid internship (Practicum work experience) chosen by the student and coordinated with the assigned faculty advisor and/ or Division Academic leader. The internship must be related to the student's academic program and should reinforce concepts and processes related to the Information Technology field. This course is graded on a Satisfactory/ Unsatisfactory basis. CIT-291 replaces CIT-293 IT Internship.

CIT-297 IT Co-op Work Experience CIT-297 IT Cooperative Work Experience 2 credit hours, 11 contact hours (1 hour lecture, 0 hours lab, and 10 hours per week of cooperative education experience). Prerequisite: None. Course is graded S/U. This course offering is composed of a paid work experience chosen by the student and coordinated with the assigned faculty advisor and/or Division Academic leader. The work experience must be related to the student's academic program and should reinforce concepts and processes related to the Information Technology field. This course is graded on a Satisfactory/ Unsatisfactory basis. CIT-297 replaces CIT-295 IT Cooperative Work Experience.

CIVL-121 AutoDesk Civil 3D CIVL-121 Autodesk Civil 3D 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: CIVL-160. Course is graded A-F. This introductory level course covers the fundamentals of AutoCAD Civil 3D and gives the student comprehensive experience with the three- dimensional, interactive, dynamic design features of AutoCAD Civil 3D. CIVL-121 replaces CIVL-120 Autodesk Civil 3D.

CIVL-160 Introduction to Civil Engineer Technolo CIVL-160 Introduction to Civil Engineering Technology 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: Concurrent enrollment in ARCH-110. Course is graded A-F. This course is an introduction to the methods and practices of civil engineering drafting, including mapping, plot plans, contours, profiles, highway layouts and GIS. CIVL-160 replaces CIVIL-160 Introduction to Civil Engineering Technology in the Semester system. Both CIVL-160 and CIVIL-160 replace DDT-3731 Introduction to Civil Drafting/Design in the Quarter system.

CIVL-170 Site Engineering CIVL -170 Site Engineering 3 credit hours, 5 contact hours (1 hour lecture and 4 hours lab). Prerequisite: C grade (2.00) or better in ARCH-110 and CIVL-160. Course is graded A-F. This course covers the following engineering aspects of site development: site grading, earthwork and hydraulics and hydrology for storm and wastewater management, as well as the projection of related construction documents. CIVL-170 replaces CIVIL-170 Site Engineering.

CIVL-240 Statics & Strengths of Materials CIVL-240 Statics & Strengths of Materials 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: Credit for MATH-150 or concurrent enrollment in MATH-150, and Credit for PHYS-100 or concurrent enrollment in PHYS-100. Course is graded A-F. Course is graded A-F. This course includes the study of static forces and equilibrium and the resultant stress, strain, deformation, failure and strength requirements in straight line tension structures, compression and bearing members, shear elements, torsion elements, and angled structures. CIVL-240 replaces CIVIL-240 Statics & Strengths of Materials I.

CIVL-242 Structural Design & Detailing CIVL-242 Structural Design and Detailing 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in ARCH-110 and successful completion of CIVL-240. Course graded A-F. This course covers design and documentation of structural members. The student will utilize structural design concepts and applications, as well as the practices and methods used in the graphical representation of structural steel and reinforced concrete structures.

CIVL-245 Surveying CIVL-245 Surveying 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in MATH-080 or appropriate placement per COTC Assessment and Placement policy and CIVL-160. Course is graded A-F. This surveying course will cover basic concepts of surveying, surveying equipment and field methods, and surveying applications. The student will use measurement techniques and apply mathematical relationships in solving problems. CIVL-245 replaces CIVIL-245. CIVL-245 and CIVIL-245 both meet the Ohio Transfer Assurance Guide standards for course OET015.

CIVL-260 Construction Materials & Testing CIVL-260 Construction Materials and Testing 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in MATH-080 or appropriate placement per COTC Assessment and Placement policy. This course covers the properties, use and testing of heavy construction materials.

CIVL-266 Soil Mechanics and FoundationsCIVL-266 Soil Mechanics and Foundations 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in CIVL-240. Course is graded A-F. This course covers fundamental engineering properties and mechanical behavior of soil materials and correlation to foundation design and construction. Standard field and lab testing procedures are covered. CIVL 266 replaces CIVL-265 Soil Mechanics and Foundations in the semester system. CIVL-266 and CIVL-265 replace CIVL-250 Soils, Asphalt, and Concrete.

CUL-101 Introduction to Culinary ScienceCUL-101 Introduction to Culinary Science 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course is an introduction to and synopsis of the science of the culinary world involving historical and social context and societal responsibility in the evolution of culinary science. The student will develop the ability to calculate culinary ratios, percents, unit conversion estimates, properly scale and cost recipes, and project and analyze yields. Course work will involve reading, discussion, and reporting on culinary advancements, including the development of appropriate technology. The student will familiarize him/herself with tools, and equipment commonly used in kitchens, including their use and care. Principles of cooking techniques, understanding taste, and principles of flavor development are introduced. CUL-101 replaces CUL-6000 Introduction to Culinary Science in the Quarter system.

CUL-102 Product Knowledge & Purchasing CUL-102 Product Knowledge and Purchasing 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. This course is an introduction to the identification and use of vegetables, fruits, herbs, nuts, grains, dry goods, prepared goods, dairy products, and spices in various forms. The student will identify, taste and explore each item with emphasis on local sustainability. In addition, he/she will evaluate products for taste, texture, smell, appearance, and other quality attributes. Food service purchasing, receiving, handling, storage, and issuing and evaluation processes are discussed and practiced. Purchasing automation, computerized purchasing and HACCP (Hazard Analysis Critical Control Points) systems are discussed and demonstrated in this course. CUL-102 replaces CUL-6010 Product Knowledge and Purchasing in the Quarter system.

CUL-103 Food Service Safety CUL-103 Food Service Safety 1 credit hour, 1.50 contact hours (0.50 hours lecture and 1 hour lab). Prerequisite: None. Course is graded S/U. This course is a full study of sanitation practices and principles involving food sanitation and safety. Topics covered include the providing of safe food, food-borne illnesses, microbial dangers, allergens, contaminates, personal hygiene, management practices of hygiene, HACCP principles, facility management and safe design, and food safety laws. The student will take the National Restaurant Association ServSafe examination in this course. This course is graded on a Satisfactory/ Unsatisfactory basis. CUL-103 replaces CUL-6020 Food Service Safety in the Quarter system. CUL-103 meets the Career Technical Credit Transfer (C-TAG) standards for course CTCF001.

CUL-110 Culinary Skills Development I CUL-110 Culinary Skills Development I 3 credit hours, 7 contact hours (1 hour lecture and 6 hours lab). Prerequisite: C grade (2.00) or better in CUL-101, CUL-102 and CUL-103. Course is graded A-F. This course provides an introduction to and application of fundamental cooking theories and techniques. Topics of study include tasting, kitchen equipment, knife skills, classical vegetable cuts, stock production, thickening agents, grand sauces, soup preparation, timing, station organization, palate development, culinary French terms, and food costing. Skills development includes the basic skills necessary to prepare breakfast in a foodservice operation, how to

organize and maintain a smooth work flow on the breakfast line, present and garnish food, and the basic methods of egg cookery, quick breads, grains, fruit plates, breakfast beverages, meats, and potatoes. CUL-110 replaces CUL-6030 Culinary Skills Development I in the Quarter system. CUL-110 meets the Ohio Career-Technical Assurance Guide standards for CTCF005. .

CUL-111 Culinary Fabrication CUL-111 Culinary Fabrication 3 credit hours, 7 contact hours (1 hour lecture and 6 hours lab). Prerequisite: C grade (2.00) or better in CUL-101, CUL-102 and CUL-103. Course is graded A-F. This course is an introduction to meat, poultry, and seafood fabrication for foodservice operations. The student learns the fundamentals of purchasing, receiving, handling, and storing meat, poultry, and seafood; techniques for fabricating cuts for professional kitchens, meat grinding, brining, curing, and smoking, and basic sausage making. Identification will involve primal, subprime, and portion cuts of beef, veal, pork, lamb, various game, poultry, fish, crustaceans, and shellfish. Topics include nutritional qualities, as well as knife skills, yield results, quality checking, flavor profiles, storage techniques, and special storage equipment. CUL-111 replaces CUL-6040 Culinary Fabrication in the Quarter system.

CUL-120 Culinary Skills Development II CUL-120 Culinary Skills Development II 3 credit hours, 7 contact hours (1 hour lecture and 6 hours lab). Prerequisite: C grade (2.00) or better in CUL-110. Course is graded A-F. This course provides continued instruction in fundamental cooking theories and techniques, including product tasting, stock production, vegetable cookery by color and family, potato cookery, grain cookery, rice cookery, fresh pasta cookery, dry legumes, and an overview of traditional and contemporary dishes served in casual foodservice operations. The course also explores timing, station organization, basic principles of production layout and quantity food preparation. Emphasis will be on individual and team food production, serving, and tasting/evaluating. Skills of efficiency, organization, speed, timing, and quality volume production will be stressed. Specialty diets will be introduced. CUL-120 replaces CUL-6031 Culinary Skills Development II in the Quarter system.

CUL-121 Garde Manger CUL-121 Garde Manger 3 credit hours, 7 contact hours (1 hour lecture and 6 hours lab. Prerequisite: C grade (2.00) or better in CUL-110 and CUL-111. Course is graded A-F. An introduction to three main areas of the cold kitchen: reception foods, plated appetizers, and buffet arrangements. The student will learn to prepare canapes, hot and cold hors d'oeuvre, appetizers, forcemeats, pates, galantines, terrines, salads, and sausages. Curing and smoking techniques for meat, seafood, and poultry items will be practiced. The student will plan, organize and set up buffets. This course also concentrates on the practical techniques of platter design and presentations. CUL-121 replaces CUL-6050 Garde Manger in the Quarter system.

CUL-201 International Cuisines CUL-201 International Cuisines 1.50 credit hours, 3.50 contact hours (0.50 hours lecture and 3.00 hours lab). Prerequisite: C grade (2.00) or better in CUL-120. Course is graded A-F. The student will look at the cuisines of several continents and countries and how they have developed and evolved. Each cuisine is explored in terms of its history, topography, cooking methods, common foods, flavor profiles, and general characteristics. Through lectures, and demonstrations the student is introduced to the cultural aspects of food with an emphasis on flavor components and traditional and contemporary cookery. During production the student will prepare, taste and evaluate dishes from the major world cuisines. CUL-201 is a New Course in the Semester system.

CUL-202 Cuisines Across AmericaCUL-202 Cuisines Across America 1.50 credit hours, 3.50 contact hours (0.50 hours lecture and 3.00 hours lab). Prerequisite: C grade (2.00) or better in CUL-120. Course is graded A-F. The student will explore the varying culinary regions of the United States and how they have developed and evolved. Each cuisine is experienced in terms of its historic cultural influences, flavor profiles, prevalent foods and ingredients, and cooking techniques. During production the student will prepare, taste, serve and evaluate dishes from across America. CUL-202 is a New Course in the Semester system.

CUL-203 Menu Planning & Cost Controls CUL-203 Menu Planning and Cost Controls 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in CUL-102. Course is graded A-F. This course is an analysis of menu development for various foodservice establishments and a detailed study of how to create and maintain control systems for food, beverage, and labor costs. Focus is placed on the importance of data collection and analysis. Menu topics discussed include the following: menu trends, the market survey, nutrition and menu planning, foodservice menus, yield tests, standard recipes, recipe costing, menu development and design, sale history, merchandising, and equipment analysis. Cost control topics covered include the following: the complete flow of goods; the relationships among sales, costs and profit; income statements; and sales forecasting. Emphasis is placed on developing the skills necessary to effectively create a professional menu and establish the controls needed to maintain menu profitability. CUL-203 replaces CUL-6070 Menu Planning and Cost Controls in the Quarter system.

CUL-210 Techniques of Banqueting & Catering CUL-210 Techniques of Banqueting and Catering 3 credit hours, 7 contact hours (1 hour lecture and 6 hours lab). Prerequisite: C grade (2.00) or better in CUL-110. Course is graded A-F. This course introduces the various techniques and styles of service, their histories and applications, and the characteristics that distinguish an outstanding dining experience. The student will examines the various ways in which banquet and catering menus are developed and prepared, with emphasis placed on maintaining quality and contemporary appeal. The importance of sanitation and appearance, merchandising concepts, reservation systems, and priority seating are introduced. The student will organize, plan, and execute a large-scale banquet operation and smaller catering events, demonstrate how to properly set up displays for successful presentations, and focus on the methodology and recipes to understand how to succeed in today's culinary environment. CUL-210 replaces CUL-6071 Techniques of Banqueting and Catering in the Quarter system.

CUL-211 Baking, Pastry & Desserts CUL-211 Baking, Pastry, and Desserts 3 credit hours, 7 contact hours (1 hour lecture and 6 hours lab). Prerequisite: C grade (2.00) or better in CUL-103. Course is graded A-F. This course is an introduction to the principles of baking and the techniques used in the preparation of breads, pastries, and desserts. Study topics include formulas and proper measuring techniques, identification and use of various baker's tools and equipment, and ingredient functions. Student production will include basic and artisan breads and pastries, pies, tarts, cakes, cookies, custards and puddings, frozen desserts, fruit desserts, and chocolates. Emphasis is placed on development and understanding of the fundamental techniques and evaluation of quality characteristics and presentation. CUL-211 replaces CUL-6080 Baking, Pastry, and Dessert in the Quarter system.

CUL-212 Wine & Beverage Service CUL-212 Wine and Beverage Services 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. This course

combines the introduction to and application of beverages, bartending, and service. The course emphasizes the various styles of wines produced around the world, and the theory of pairing wine with food. The student is also introduced to the identification, production, and service of beers, spirits, cordials, cocktails, and coffee and tea. The student examines the roles of beverages in professional foodservice operations including purchasing, storing, issuing, pricing, merchandising, and serving wines, beers, spirits, and coffees and teas. CUL-212 replaces CUL-6085 Wine and Beverage Services in the Quarter system.

CUL-286 Culinary Co-Op CUL-286 Culinary Co-op Work Experience 2 credit hours, 11 contact hours (1 hour lecture, 0 hours lab, and 10 hours of co-operative education experience per week). Prerequisite: Permission of the Culinary Science Program Director. Course is graded S/U. This course will assist the student in gaining work experience in an approved foodservice establishment while applying the principles, methods and practices learned in technical courses. The student will participate in a supervised work experience designed to expand career knowledge while increasing speed, timing, organization, and ability to handle various situation. During the co-op, the student will receive feedback from his/her supervisor and submit journal entries that record and reflect upon his/her work experience. The student is required to meet with the program director at least four weeks prior to enrolling in this course (no fewer than 4 weeks prior to the semester beginning). This course is graded on a Satisfactory / Unsatisfactory basis. CUL-286 is a new course in the Semester system.

CUL-289 Culinary Co-Op Work Experience CUL-289 Culinary Co-op Work Experience 2 credit hours, 11 contact hours (1 hour lecture, 0 hours lab, and 10 hours of co-operative education experience per week). Prerequisite: Permission of the Culinary Science Program Director. Course is graded S/U. This course will assist the student in gaining work experience in an approved foodservice establishment while applying the principles, methods and practices learned in technical courses. The student will participate in a supervised work experience designed to expand career knowledge while increasing speed, timing, organization, and the ability to handle various situation. During the co-op, the student will receive feedback from his/her supervisor and submit journal entries that record and reflect upon his/her work experience. The student is required to meet with the program director at least four weeks prior to enrolling in this course (no fewer than 4 weeks prior to the semester beginning). This course is graded on a Satisfactory / Unsatisfactory basis. CUL-289 replaces CUL-286 Culinary Co-op Work Experience in the Semester system. CUL-286 was a new course in the Semester system.

DMD-100 Fundamentals of Drawing DMD-100 Fundamentals of Drawing 3 credit hours, 7 contact hours (1 hour lecture and 6 hours lab). Prerequisite: None. Course is graded A-F. This course explores the basic techniques of drawing, focusing on composition, proportion, perspective and the basic fundamentals of line, shape, contrast, texture, balance, and unity. Projects include studies of figures, nature and interiors, with the purpose of developing an understanding of how to communicate rapidly with basic analog tools before using digital media. DMD-100 meets the Ohio Transfer Assurance Guide standards for course OAH001.

DMD-101 Digital Software Fundamentals DMD-101 Digital Software Fundamentals 1 credit hour, 3 contact hours (0 hours lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. This is an overview course, covering the background and formats of digital media and an introduction to digital media software tools. In preparation for further classes, the student will explore the layout of the

interface for digital software programs most commonly used in digital media. This course should be taken before any digital media design course requiring the use of digital software.

DMD-103 Typography DMD-103 Typography 1 credit hour, 3 contact hours (0 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in DMD-101 or concurrent enrollment in DMD-101. Course is graded A-F. This course is an introduction to the history of type and the use of the letterform in digital design. The student will use software tools to develop a creative understanding of and a technical competence in using type as both a holder of content and an integral part of digital design. This course is typically offered on a Term basis. MD-103 meets the Career Technical Credit Transfer (C-TAG) standards for course CTVDI001.

DMD-104 Design Fundamentals DMD-104 Design Fundamentals 3 credit hours, 5 contact hours (1 hour lecture and 4 hours lab). Prerequisite: C grade (2.00) or better in DMD-101. Course is graded A-F. This course is an introduction to digital design with emphasis on the basic principles, methodologies, and skills important to 2D digital design using key computer graphics tools and software. This course is designed to prepare the student for the next level in his/her selected discipline.

DMD-105 Digital Photography I DMD-105 Digital Photography I 3 credit hours, 5 contact hours (1 hour lecture and 4 hours lab). Prerequisite: None. Course is graded A-F. This course provides an introduction to the techniques and theories of digital photography. The course covers pre-visualization, composition, image capture, simple digital editing of the image and final digital output. The student will learn to use photography as part of the communication process of design. A DSLR camera is recommended. DMD-105 meets the Ohio Transfer Assurance Guide standards for course OAH002.

DMD-106 Mass Media Communications DMD-106 Mass Media Communications 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: None. Course is graded A-F. This course is an introduction to the history, development, and future of mass media and its affect on cultures and society. The student also will study how communication has developed and will integrate theory with practical exercises in developing communication strategies and implementations. The student will gain experience in creating copy and content for various digital media. DMD-106 meets the Ohio Transfer Assurance Guide standards for course OCM006.

DMD-107 Intro to E-Life: The Evolving Web DMD-107 Intro to e-Life: The Evolving Web 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course focuses on the recent history of the Internet and the growth of the World Wide Web from a simple broadcast medium into a platform that fosters communities of users-empowering them to create, share, and participate in the virtual community. Topics covered include social networking, social utilities, collaborative technologies, and various applications including mobile, desktop, television and web.

DMD-108 Multimedia Production I DMD-108 Multimedia Production I 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. This course is exploration into the design and programming of interactive media with an emphasis on Flash. The student will explore both hand-animated graphics and more complex ActionScript projects. DMD-108 meets the Career Technical Credit Transfer (C-TAG) standards for course CTIM001.

DMD-120 Web Design & Development I DMD-120 Web Design & Development I 3 credit hours, 5 contact hours (1 hour lecture and 4 hours lab). Prerequisite: None. Course is graded A-F. This course is an introduction to Web site design and development. Using WYSIWYG software, the student will be introduced to the principals of web design, page layout including CSS formatting and the use of current scripting languages. Familiarity with Photoshop or other image-editing tool for manipulation of JPEGs and GIFs is highly recommended. DMD-120 meets the Career Technical Credit Transfer (C-TAG) standards for course CTIM004.

DMD-121 Web Design & Development II DMD-121 Web Design & Development II 3 credit hours, 5 contact hours (1 hour lecture and 4 hours lab). Prerequisite: C grade (2.00) or better in DMD-120. Course is graded A-F. Building on the concepts and skills learned in Web Design and Development I, the student will continue to examine website design, using interactive tools. Emphasis switches in this class from the basics of construction to an understanding of the Web visitor. Beginning with usability, the course will focus on interactivity employing scripting languages such as javascript. DMD-121 meets the Career Technical Credit Transfer (C-TAG) standards for course CTIM005

DMD-201 Graphic Design I DMD-201 Graphic Design I 3 credit hours, 5 contact hours (1 hour lecture and 4 hours lab). Prerequisite: C grade (2.00) or better in DMD-101 and DMD-104. Course is graded A-F. Graphic Design I begins the exploration of graphic design and the digital print publishing world. The course covers the history of graphic communication from man's earliest attempts at self expression through visual media to the creation of writing, the printing press, the computer, and modern graphic design. This course also covers designing for the printed page and the use of page-layout software to create printed documents. The course will serve as an overview to graphic design publishing, including working with traditional as well as digitally based design tools.

DMD-202 Graphic Design II DMD-202 Graphic Design II 3 credit hours, 5 contact hours (1 hour lecture and 4 hours lab). Prerequisite: C grade (2.00) or better in DMD-201. Course is graded A-F. This course continues the exploration of the technology, principles and processes of digital publishing and how they relate in application to actual publishing projects. Special emphasis will be given to information architecture through static and dynamic projects that emphasize visual problem solving. The student will learn to translate complex data and/or information into clear, visually compelling solutions.

DMD-208 Multimedia Production DMD-208 Multimedia Production 2 credit hours 4 contact hours (1 hour lecture and 3 hours lab) Prerequisite: none Course is graded A-E. This course is an exploration into the design and programming of interactive multimedia. Topics include digital image editing, digital sound and video editing, animation, basic web page development, and advanced interactive environments with an emphasis on conceptualizing and producing effective multimedia presentations. The student will explore both basic animated content and more complex dynamic, code- or script-driven projects. Course is graded A-F. DMD-208 replaces DMD-108

DMD-222 Web Design & Development III DMD-222 Web Design & Development III 3 credit hours, 5 contact hours (1 hour lecture and 4 hours lab). Prerequisite: C grade (2.00) or better in DMD-120 and DMD-121. Course is graded A-F. This project-based course continues the exploration of web development, expanding from XHTML with an introduction to server-side programming and content management systems. The development of business-oriented web sites often requires the web designer to plan for accessing, storing and retrieving information from the server. The actual programming and

scripting languages will remain flexible to reflect the latest industry standards. Emphasis is not on the syntax of programming but on problem solving, specifically as a course for web designers.

DMD-240 Digital Video I DMD-240 Digital Video I 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. This course provides an introduction to the envisioning, planning, shooting, editing and post-production of digital video. DMD-240 meets the Career Technical Credit Transfer (C-TAG)standards for course CTIM006.

DMD-242 E-Publishing & Interactive Documents DMD-242 e-Publishing and Interactive Documents 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. In this course the student will explore the motivations, means, and methods of developing and distributing graphic design content digitally through the Internet and mobile applications. The student will also research and explore the ways and methods authors interact with their readership in the digital forum and how this interaction is different from graphic design content distributed through traditional print channels.

DMD-250 Digital Media Design Capstone DMD-250 Digital Media Design Capstone 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in DMD-104, DMD-105 and DMD-201. Course is graded A-F. The Digital Media Design Project course completes the study of digital media design with a semester long project focused on the digital media specialty of the student's choice. The student will choose a project or projects, preferably in partnership with a community business or association, to produce production quality work for his or her portfolio. The student is expected to work closely with the instructor and the project client.

DMD-251 Digital Media Portfolio DMD-251 Digital Media Portfolio 1 credit hour, 3 contact hours (0 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in DMD-104. Course is graded A-F. A studio course in which the student will apply skills learned from previous courses to solve real world problems. At least one project will be assigned. The student will choose at least one major design problem. Projects may include signage, corporate identity, brochures, ad campaigns, interactive venues, or Web sites.

DMD-294 Digital Media Practicum DMD-294 Digital Media Practicum 2 credit hours, 8 contact hours (1 hour lecture, 0 hours lab, and 7 hours practicum). Prerequisite: C grade (2.00) or better in DMD-104, DMD-201, ENGL-112 and SPCH-100. Course is graded A-F. This course provides the student with the practical application of skills in graphic design, Web design, digital video production, interactive development, and/or other digital media design production at a business or agency. The internship correlates academic preparation with professionally supervised work experience. DMD-294 replaces DMD-293 Digital Media Internship.

DMD-3823 Design for Print II DMD-3823 Design for Print II 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: DMD-3843. Course is graded A-E. This course made INACTIVE 06/16/2008; Replaced by DMD-3845. This course continues with the exploration of creating designs for print using page layout and illustration software. Design projects will focus on the use of digital design to solve communication problems and client needs.

DMS-101 Intro Sonography & Patient Care DMS-101 Introduction to Sonography and Patient Care 1 credit hour, 1 contact hour (1 hour lecture and 0 hours lab). Prerequisite: Acceptance in

the Diagnostic Medical Sonography Program or with permission of the Program Director. Course is graded A-F. During this course, the Sonography student will discuss introductory topics of Sonography history, health care delivery system, professional communication and conduct, and the sonographer's role in patient care. The student is introduced to basic aspects of patient care including evaluating and meeting the physical needs of patients, infection control practices, dealing with acute situations and special-care unit patients. DMS-101 replaces DMS-100 Introduction to Sonography & Patient Care.

DMS-110 Cross Sectional Anatomy DMS-110 CROSS-SECIONAL ANATOMY 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology or the Medical Imaging in Radiologic Sciences Technology programs. C grade (2.00) or better in BIO-131, or permission of the Program Director. Course is graded A-F. This course is designed to provide the student with specific knowledge of relational and sectional anatomy of the head, thorax, abdomen, pelvis and extremities. The college laboratory sessions are utilized to study human material and to correlate with radiologic and/or sonographic images.

DMS-116 Current Issues in Health Care DMS-116 Current Issues in Healthcare 1.50 credit hours, 1.50 contact hours (1.50 hours lecture and 0 hours lab). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology program, or permission of the Program Director. Course is graded A-F. This course covers current issues relevant to imaging departments and personnel. During the course topics such as ethics, professionalism, death and dying, organ and tissue donation, transplantation, medical research and new techniques and procedures will be reviewed. Upon completion of the course the student will be prepared to address similar issues encountered as a sonographer. DMS-116 replaces DMS-115 Current Issues in Healthcare.

DMS-165 Principles of Clinical Sonography DMS-165 Principles of Clinical Sonography 3 credit hours, 16 contact hours (1 hour lecture, 0 hours lab, and 15 hours directed practice [clinical]). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology, General Major program; C grade (2.00) or better in DMS-100 and a valid CPR card. Course is graded A-F. An introductory experience to the clinical setting in which students have an opportunity to observe concepts and techniques related to sonographic imaging and patient care. Students will function under the close supervision of qualified sonographers or physicians in hospitals and other health related facilities. DMS-165 replaces DMS-185 Principles of Clinical Sonography.

DMS-166 Prin Clinical Cardiovascular Sonography DMS-166 Principles of Clinical Cardiovascular Sonography 3 credit hours, 16 contact hours (1 hour lecture, 0 hours lab, and 15 hours directed practice [clinical]). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology, Cardiovascular Major program; C grade (2.00) or better in DMS-101 and a valid CPR card. Course is graded A-F. An introductory experience to the clinical setting in which students have an opportunity to observe concepts and techniques related to sonographic imaging and patient care. Students will function under the close supervision of qualified sonographers or physicians in hospitals and other health related facilities. DMS-166 replaces DMS-186 Principles of Clinical Cardiovascular Sonography.

DMS-180 Sonography Scan Lab I DMS-180 Sonography Scan Lab I 2 credit hours, 6 contact hours (0 hours lecture and 6 hours lab). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology, General Major Program. Course is graded A-F. This course will introduce basic sonography scanning techniques. The student will learn basic protocols for liver, gallbladder, pancreas, kidney,

aorta, thyroid and trans-abdominal pelvic sonograms. The student will have the opportunity to practice these techniques in a college laboratory setting.

DMS-181 Sonography Scan Lab II DMS-181 Sonography Scan Lab II 2 credit hours, 6 contact hours (0 hours lecture and 6 hours lab). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology, General Major Program. Course is graded A-F. This course will reinforce basic sonography scanning techniques. The student will learn advanced applications such as color Doppler, pulsed wave Doppler and spectral analysis for liver, kidney, aorta, thyroid and trans-abdominal pelvic sonograms. The student will have the opportunity to practice these techniques in a college laboratory setting.

DMS-182 Cardiovascular Scan Lab I DMS-182 Cardiovascular Scan Lab I 2 credit hours, 6 contact hours (0 hours lecture and 6 hours lab). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology, Cardiovascular Major program, or permission of the Program Director. Course is graded A-F. This course will introduce basic cardiovascular sonography scanning techniques. The student will learn basic protocols for adult echocardiography, cerebrovascular and lower extremity venous sonograms. The student will have the opportunity to practice these techniques in a college laboratory setting.

DMS-183 Cardiovascular Scan Lab II DMS-183 Cardiovascular Scan Lab II 2 credit hours, 6 contact hours (0 hours lecture and 6 hours lab). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology, Cardiovascular Major program, or permission of the Program Director. Course is graded A-F. This course will introduce basic cardiovascular sonography scanning techniques. The student will learn basic protocols for upper and lower extremity arterial and venous duplex examinations, ABI examinations, cerebrovascular imaging and adult echocardiograms. The student will have the opportunity to practice these techniques in a college laboratory setting.

DMS-200 Sonographic Physics & Instrumentation I DMS-200 Sonographic Physics and Instrumentation I 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology program; C grade (2.00) or better in PHYS-100, or permission of the Program Director. Course is graded A-F. The course introduces the fundamental principles of sonographic physics. Topics include the nature of waves, wave properties, interaction of ultrasound with tissue, and ultrasonic beam parameters. Hemodynamics and basic Doppler principles are also discussed.

DMS-201 Sonographic Physics & InstrumentationII DMS-201 Sonographic Physics and Instrumentation II 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology program; C grade (2.00) or better in DMS-200, or permission of the Program Director. Course is graded A-F. This course applies the fundamental principles of sonographic physics to specific ultrasound instrumentation. Topics such as transducer construction and design, equipment controls and instrumentation for static, real-time and Doppler systems will be discussed. Additional topics such as artifacts, storage devices, biological effects of ultrasound, and quality assurance testing will be discussed.

DMS-210 Obstetrical & Gynecological Sono I DMS-210 Obstetrical and Gynecological Sonography I 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology program; concurrent enrollment in DMS-110, or permission of the Program Director. Course is graded A-F. This course emphasizes the fundamental

principles of sonographic imaging of the female pelvis. Anatomy, physiology, pathology, interpretation of clinical data, differential diagnosis, and ultrasound techniques relative to the gynecological patient are presented. This course provides an extensive study of the anatomy, physiology, pathology, and sonographic appearance of the developing fetus with emphasis placed on the first trimester. Specific sonographic protocols for obstetrical ultrasound are included. Clinical presentation and maternal complications associated with pregnancy are also emphasized.

DMS-212 Obstetrical & Gynecological Sono II DMS-212 Obstetrical and Gynecological Sonography II 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology program. Course is graded A-F. This course provides an extensive study of the anatomy, physiology, pathology, and sonographic appearance of the developing fetus. Clinical presentations of maternal complications, second and third trimester development as well as various anomalies associated with pregnancy are emphasized. DMS-212 replaces DMS-211 Obstetrical and Gynecological Sonography II.

DMS-220 Abdominal Sonography I DMS-220 Abdominal Sonography I 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology program, or permission of the Program Director. Course is graded A-F. This course covers sonographic and related imaging techniques of the liver, gallbladder, biliary tree, pancreas, abdominal vascular system, spleen, lymphatic system and abdominopelvic cavities. Emphasis is on anatomy, physiology, pathology, interpretation of clinical data, differential diagnosis, and ultrasound techniques relative to the abdomen.

DMS-221 Abdominal Sonography II DMS-221 Abdominal Sonography II 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology program; C grade (2.00) or better in DMS-220, or permission of the Program Director. Course is graded A-F. This course covers sonographic and related imaging techniques of the kidneys, adrenal glands, GI tract, thyroid and parathyroid glands, male reproductive system, prostate, musculoskeletal system, peripheral and cerebrovascular systems and the neonatal brain. Emphasis is on anatomy, physiology, pathology, interpretation of clinical data, differential diagnosis, and ultrasound techniques relative to the abdomen and superficial structures.

DMS-222 Breast Sonography DMS-222 Breast Sonography 1 credit hour, 1 contact hour (1 hour lecture and 0 hours lab). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology program; C grade (2.00) or better in DMS-220, or permission of the Program Director. Course is graded A-F. This course will cover the normal anatomy, physiology and pathology of the breast. Sonographic appearance of the normal breast, benign breast disease and malignancies will be introduced. Various invasive and related imaging modalities will also be discussed. Emphasis is on correlation of clinical data, related imaging techniques and sonographic appearance to determine differential diagnosis.

DMS-230 Echocardiography I DMS-230 Echocardiography I 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology, Cardiovascular Major program, or permission of the Program Director. Course is graded A-F. This course will review the echocardiographic examination and the electrical components of the cardiac system. Mitral, Aortic, Tricuspid and Pulmonic valvular disease will be discussed. Cardiomyopathies, Pericardial Heart Disease and Ischemic Heart Disease will also be studied.

DMS-233 Echocardiography II DMS-233 Echocardiography II 4 credit hours, 4 contact hours (4 hours lecture and 0 hours lab). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology, Cardiovascular Major program; C grade (2.00) or better in DMS-230, or permission of the Program Director. Course is graded A-F. This course will continue the sonographic evaluation of cardiac pathophysiology including the specialty examinations of transesophageal, stress, and contrast studies. Sonographic imaging of the pediatric heart with emphasis on embryology, anatomy, physiology, pathology, and interpretation of clinical data will also be introduced. DMS-233 replaces DMS-231 Echocardiography II.

DMS-240 Vascular Sonography I DMS-240 Vascular Sonography I 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology, Cardiovascular Major program, or permission of the Program Director. Course is graded A-F. This course emphasizes the sonographic evaluation of the peripheral vascular system. Noninvasive testing of the upper and lower extremity vessels and disease processes will be studied. Plethysmography, duplex, pulsed and continuous wave Doppler testing will be introduced. This course emphasizes the principles and procedures involved in transcranial and extracranial sonography as well as abdominal vascular sonography. Spectral analysis, color Doppler, pulsed and continuous wave Doppler will be discussed. The disease mechanisms of the cerebrovascular and abdominal areas will be discussed and contrasted with normal anatomy.

DMS-241 Vascular Sonography II DMS-241 Vascular Sonography II 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology, Cardiovascular Major program; C grade (2.00) or better in DMS-240, or permission of the Program Director. Course is graded A-F. This course discusses miscellaneous vascular pathologies and advanced imaging techniques. Spectral analysis, color Doppler, pulsed and continuous wave Doppler will be discussed. The disease mechanisms of the abdominal areas will be discussed and contrasted with normal anatomy. Test validation and statistical comparisons will be introduced with an effort to establish a quality assurance program. A brief summary of vascular laboratory accreditation will also be discussed.

DMS-265 Clinical Sonography I DMS-265 Clinical Sonography I 4 credit hours, 26 contact hours (1 hour lecture, 0 hours lab, and 25 hours directed practice [clinical]). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology, General Major program and a valid CPR card. Course is graded A-F. This course will provide an extended clinical experience in which the student will display an advanced skill set in techniques related to sonographic imaging. The student will function under the close supervision of qualified Sonographers or physicians in hospitals and other health related facilities. A weekly one hour seminar focusing on specific case studies will be conducted. DMS-265 replaces DMS-285 Clinical Sonography I.

DMS-266 Clinical Sonography II DMS-266 Clinical Sonography II 4 credit hours, 26 contact hours (1 hour lecture, 0 hours lab, and 25 hours directed practice [clinical]). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology, General Major program; C grade (2.00) or better in DMS-265, and a valid CPR card. Course is graded A-F. This course provides the final clinical experience emphasizing mastery of skills in all areas of medical sonography. The course is designed to challenge the student to function independently within the supervised clinical setting, tailoring each examination according to the specific guidelines of each case. The student will function under the supervision of

qualified Sonographers or physicians in hospitals and other health related facilities. A weekly one hour seminar focusing on specific case studies will be conducted. DMS-266 replaces DMS-286 Clinical Sonography II.

DMS-267 Cardiovascular Clinical Sonography I DMS-267 Clinical Cardiovascular Sonography I 4 credit hours, 26 contact hours (1 hour lecture, 0 hours lab, and 25 hours directed practice [clinical]). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology, Cardiovascular Major program and a valid CPR card. Course is graded A-F. The initial scanning experience in the clinical setting provides the students with the opportunity to apply learned concepts and techniques related to cardiovascular imaging. Students will function under the close supervision of qualified sonographers or physicians in hospitals and other health related facilities. A weekly one hour seminar focusing on specific case studies will be conducted. DMS-267 replaces DMS-287 Clinical Cardiovascular Sonography I.

DMS-268 Cardiovascular Clinical Sonography II DMS-268 Clinical Cardiovascular Sonography II 4 credit hours, 26 contact hours (1 hour lecture, 0 hours lab, and 25 hours directed practice [clinical]). Prerequisite: Enrollment in the Diagnostic Medical Sonography Technology, Cardiovascular Major program; C grade (2.00) or better in DMS-267, and a valid CPR card. Course is graded A-F. This course provides the final clinical experience emphasizing mastery of skills in all areas of medical sonography. The course is designed to challenge the student to function independently within the supervised clinical setting, tailoring each examination according to the specific guidelines of each case. The student will function under the supervision of qualified Sonographers or physicians in hospitals and other health related facilities. A weekly one hour seminar focusing on specific case studies will be conducted. DMS-268 replaces DMS-288 Clinical Cardiovascular Sonography II.

DMS-302 Abdominal Vascular Disease & Testing DMS-302 Abdominal Vascular Disease & Testing 4 credit hours, 4 contact hours (4 hours lecture and 0 hours lab). Prerequisite: Must be enrolled in the DMS program or permission of the Program Director. Course is graded A-F. This course focuses on abdominal vascular disease and diagnostic sonographic parameters. Normal abdominal vasculature of the liver, portal venous system, aorto-iliac, renal and mesenteric is discussed. Pathologies associated with the abdominal vascular system with emphasis on renal artery stenosis, portal hypertension, mesenteric ischemia and abdominal aortic disease. The diagnostic process including patient history, clinical signs and symptoms and physical assessments associated with abdominal testing will be discussed.

DMS-303 Survey of Abdominal Sonography DMS-303 Survey of Abdominal Sonography 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Must be enrolled in the DMS program or permission of the Program Director. Course is graded A-F. This course is an introduction to basic abdominal sonography with emphasis on normal abdominal anatomy and abnormal disease states. Sonographic imaging techniques of the liver, gallbladder, biliary tree, pancreas, abdominal vascular system, spleen, lymphatic system and abdominopelvic cavities is discussed. Emphasis is on anatomy, physiology, pathology, interpretation of clinical data, differential diagnosis, and ultrasound techniques relative to the abdomen.

DMS-304 Survey of Echocardiography DMS-304 Survey of Echocardiography 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Must be enrolled in the DMS program or permission of the Program Director. Course is graded A-F. This course will introduce cardiac anatomy,

physiology and pathology. B-mode, M-mode, and CW, PW and Color Doppler testing in the detection of valvular disease and cardiac function will be discussed. Cardiac electrophysiology will also be studied. Transthoracic echocardiography as well as correlation with invasive testing will discussed.

DMS-305 Survey of Vascular Technology DMS-305 Survey of Vascular Technology 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Must be enrolled in the DMS program or permission of the Program Director. Course is graded A-F. This course emphasizes the sonographic evaluation of the peripheral vascular system and cerebrovascular system. Noninvasive and invasive testing of the upper and lower extremity vessels and cerebrovascular disease processes will be studied. Plethysmography, spectral analysis, duplex, pulsed and continuous wave Doppler testing will be introduced.

DMS-306 Fetal, Neonatal & Pediatric Echocardogra DMS-306 Fetal, Neonatal & Pediatric Echocardiography 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Must be enrolled in the DMS program or permission of the Program Director. Course is graded A-F. This course focuses on congenital heart disease and sonographic cardiac imaging during fetal, neonatal and pediatric periods. Congenital defects including abnormal cardiac situs, ventricular morphology, trunk origin abnormalities, valvular and subvalvular obstruction, atrial septal defects, endocardial cushion defects, coarctation and ventricular septal defects.

DMS-307 Survey of Musculoskeletal Sonography DMS-307 Survey of Musculoskeletal Sonography 4 credit hours, 4 contact hours (4 hours lecture and 0 hours lab). Prerequisite: Must be enrolled in the DMS program or permission of the Program Director. Course is graded A-F. This course introduces the technology and application of ultrasound of the musculoskeletal system. The course provides a systematic overview of the applications of musculoskeletal ultrasound in different areas of the body including muscles, joints, tendons, ligaments, and soft tissues.

DMS-312 Abdominal Vascular Techniques Scan Lab DMS-312 Abdominal Vascular Techniques Scan Lab 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: Must be enrolled in the DMS program or permission of the Program Director. Course is graded A-F. This course will introduce abdominal vascular sonography scanning techniques. The student will learn imaging protocols for abdominal and visceral vascular examinations, including hepatoportal, aorta, renal artery, and mesenteric Duplex. The student will have the opportunity to practice these techniques in a college laboratory setting.

DMS-313 Abdominal Techniques Scan Lab DMS-313 Abdominal Techniques Scan Lab 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: Must be enrolled in the DMS program or permission of the Program Director. Course is graded A-F. This course will introduce general sonography scanning techniques. The student will learn imaging protocols for abdominal sonography including liver, gallbladder, common bile duct, renal, and pancreas examinations. The student will have the opportunity to practice these techniques in a college laboratory setting.

DMS-314 Echo Techniques Scan Lab DMS-314 Echo Techniques Scan Lab 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: Must be enrolled in the DMS program or permission of the Program Director. Course is graded A-F. This course will introduce echocardiography scanning techniques. The student will learn imaging protocols for transthoracic cardiac sonograms

including parasternal, apical, subcostal, and suprasternal views. The student will have the opportunity to practice these techniques in a college laboratory setting.

DMS-315 Vascular Techniques Scan Lab DMS-315 Vascular Techniques Scan Lab 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: Must be enrolled in the DMS program or permission of the Program Director. Course is graded A-F. This course will introduce vascular sonography scanning techniques. The student will learn imaging protocols for vascular sonography, including carotid duplex, lower extremity venous, lower extremity arterial, and ankle-brachial index examinations. The student will have the opportunity to practice these techniques in a college laboratory setting.

DMS-316 GYN Techniques Scan Lab DMS-316 GYN Techniques Scan Lab 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: Acceptance in the Diagnostic Medical Sonography Technology Program or with the permission of the Program Director. Course is graded A-F. This course will introduce gynecological sonography scanning techniques. The student will learn imaging protocols for gynecological sonography including transabdominal pelvis, bladder, endometrium and ovaries. Simulated transvaginal gynecological and 1st trimester exams will be performed on ultrasound simulators that provide realistic motion with haptic feedback that accurately replicates transvaginal imaging and provides real-life clinical situations. The student will acquire complex, hard-to-learn gynecological ultrasound scanning skills in a college laboratory setting.

DMS-317 Breast Techniques Scan Lab DMS-317 Breast Techniques Scan Lab 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: Acceptance in the Diagnostic Medical Sonography Technology Program or with the permission of the Program Director. Course is graded A-F. This course will introduce breast sonography scanning techniques. The student will learn imaging protocols for breast sonography and ultrasound guided procedures. The student will perform breast ultrasounds on mock patients and on ultrasound phantoms that replicate breast pathology encountered during real-life clinical situations. The student will acquire complex, hard-to-learn breast ultrasound scanning skills in a college laboratory setting.

DMS-325 Vascular Techniques Scan Lab II DMS-325 Vascular Techniques Scan Lab II 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: Must be enrolled in the DMS program or permission of the Program Director. Course is graded A-F. This course will introduce vascular sonography scanning techniques. The student will learn imaging protocols for vascular sonography, including upper extremity venous duplex and upper extremity arterial duplex while reinforcing imaging skills for carotid duplex, lower extremity venous, lower extremity arterial, and ankle-brachial index examinations. The student will have the opportunity to practice these techniques in a college laboratory setting.

ECE-105 Educational Technology "ECE-105 Educational Technology 1 credit hour, 1 contact hour (1 hour lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course encompasses effectively identifying, locating, evaluating, designing, preparing and efficiently using educational technology as instructional resources in the classroom related to principles of learning and teaching. The student will develop increased classroom communication abilities through lectures, discussions, modeling, laboratory experiences, and completion of a comprehensive project. ECE-105 replaces EDU-115 Educational Technology."

ECE-110 Observation & Assessment Practices ECE-110 Observation and Assessment Practices 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: Eligible to enroll in ENGL-112. Course is graded A-F. This course is designed to help prepare the student, to observe record and assess young children's development and learning for the purposes of planning appropriate programs, environments, interactions, and adapting for individual differences. Informal, authentic assessment will be highlighted and formal techniques will be introduced. Ten hours of observation will be required in various early childhood programs and include reflective practices across the curriculum that encompasses the developmental continuum.

ECE-120 Fundamentals of Reading & Writing ECE-120 Fundamentals of Reading and Writing 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course will focus on research-based principles and practices that will provide children birth to age 8 with a solid foundation in developmentally appropriate early reading and writing. The student will explore and evaluate the concepts in practice. Ten hours of into-practice experiences are required with preschool age children.

ECE-130 Health & Safety in Education 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course will provide the student with the opportunity to obtain the following certifications in preparation for employment in a licensed child care and education program: First Aid, Communicable Disease Recognition and Management, Child Abuse and Neglect Recognition, Adult, Child and Infant CPR. The student will also conduct an environmental checklist in an approved child care facility.

ECE-141 Child Development ECE-141 Introduction to Child Development 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course will include student understanding of young children's characteristics, needs, multiple influences on development and learning. The student will utilize knowledge of development to create healthy, respectful, supportive and challenging learning environments. Birth through adolescent development will be examined. Ten hours of observation and contact with a family and an early childhood program is required to complete a comprehensive Family and Child Study. ECE-141 meets the Ohio Transfer Assurance Guide standards for OED010.

ECE-150 Guidance & Group Management ECE-150 Guidance and Group Management 3 credit hours, 6 contact hours (2.50 hours lecture [seminar], 0 hours lab, and 3.50 hours per week practicum experience). Prerequisite: C grade (2.00) or better in ECE-110, ECE-120, and EDU-101, completed Student Practicum File and approved placement with preschool children, or by permission of ECD Program Director. Course is graded A-F. This course will focus on the principles and methods of guiding young children. Emphasis will be on the use of individual and group guidance and problem solving techniques to develop positive and supportive relationships with children. The student will explore and reflect on strategies that promote positive conflict resolution, self-control, self-esteem within a nurturing, safe community classroom environment. As a participant observer, the student will apply the principles of active positive guidance with young children under the supervision of a qualified cooperating teacher. Referral sources, parental participation and program collaboration will be an important focus for children with challenging behaviors.

ECE-160 Integrated Curriculum ECE-160 Integrated Curriculum 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in EDU-101 or by permission of

Program Director. Course is graded A-F. The student will explore the theories, techniques and approaches to planning and implementing learning experiences for young children. Concepts of play, appropriate practices, documentation, assessment and inquiry based learning experiences will be addressed and practiced. The student will be required to work collaboratively with peers and children in a child care setting.

ECE-170 Children's Literature ECE-170 Children' Literature 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course will explore and evaluate children's literature by genre for children birth to early school age. The integration of family literacy and cultural background will be included as students develop plans for integrating children's literature across curricular areas including links to social studies. The student will assess, critique and reflect how to integrate meaningful literature related experiences within early childhood programs. The student will be required to practice assignments with specific age groups.

ECE-180 Engaging Children in Projects ECE-180 Engaging Children in Projects 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in ECE-150 OR ECE-160 or by permission of the ECD Program Director. Course is graded A-F. This course is designed to assist the student in learning the fundamentals of project-based learning with children. The student will review completed projects to assess the children's learning outcomes and teaching strategies. Documentation processes will be explored and practiced. Collaborative groups will be assigned to practice project-based learning and document the progress of a project topic.

ECE-190 Professionalism in ECE ECE-190 Professionalism in ECE 1 credit hour, 1 contact hours (1 hour lecture and 0 hours lab). Prerequisite: C Grade (2.00) or better in EDU-101, ECE-150, ECE-160 or by permission of the ECD Program Director. Course is graded A-F. This course is designed to provide the student with the opportunity to analyze and evaluate what it means to become a professional teacher. The student will explore the principles and practices of mentors and proteges in the early childhood field, the stages of teacher development, ways of working towards collegiality, conflict resolution, personal assessment of educational knowledge, skills and dispositions and complete a collaborative advocacy project.

ECE-198 Special Topics in Ece ECE-198 Special Topics in Early Childhood Education 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Permission of ECE Program Director. Course is graded A-F. The student will explore a topic of interest approved by a designated ECE faculty member related to the early childhood education field. The student will conduct research and prepare and present a portfolio of the topic that will include documentation and evidence of the connections to learning standards and students will also complete and extended lesson plan.

ECE-211 Family, School & Community ECE-211 Family, School and Community 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course will include knowledge and understanding family and community characteristics, family structures and social and cultural backgrounds. Explore how to support and empower families and communities through relationship building. Involve families and communities in children's development and learning. The student will be required to connect with a family and research community resources to assist in strengthening the family, the schools and the community in relation to children's development and care. ECE-211 meets the Ohio Transfer Assurance Guide standards for course OED011.

ECE-220 Math & Science for ECE ECE-220 Math and Science for ECD 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in EDU-101 ECE-105 ECE-110, ECE-120, ECE-130, ECE-141, ECE-150, ECE-160, ECE-170, ECE-180, ECE-285, EDU-101 and EDU-115, and concurrent enrollment in ECE-289, or by permission of the ECD Program Director. Course is graded A-F. This course will explore various ways to assist young children in developing specific concepts in the areas of math and science. The focus will be on guiding developmentally appropriate learning experiences, which enable children to develop critical thinking and problem solving skills. Attention will be given to various methods of documentation of children's learning.

ECE-230 Creative Arts Across the Curriculum 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in EDU-101 ECE-105 ECE-110, ECE-120, ECE-130, ECE-141, ECE-150, ECE-160, ECE-170, ECE-180, ECE-285, EDU-100 and EDU-115; Concurrent enrollment in ECE-289 or by permission of the ECD Program Director. Course is graded A-F. This course will emphasize the aesthetic development of children through creative experiences in art, music, drama and movement. The student will explore, practice and reflect on the integration of meaningful learning experiences across the curriculum. The principles of project-based work will be introduced and practiced within an early childhood program.

ECE-260 Issues in Education ECE-260 Issues in Education 1 credit hour, 1 contact hours (1 hour lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in ECE-211, ECE-289, EDU-101 and EDU-201, or by permission of the ECD Program Director. Course is graded A-F. In this course the student will explore issues affecting children, families, community and the early childhood professional. Topics may include societal views of children, early childhood professionalism, current research, and future implications. Student- lead research will pose an ethical dilemma and reflect on implications for practice.

ECE-279 Administration in ECE Program ECE-279 Administration in ECE Programs 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course is designed for the student interested in the administration of early childhood care and education programs. The focus will be on operational planning to include curriculum, parent programs, staff management, community involvement, legal responsibilities, and hiring requirements. Establishing and maintaining effective fiscal practices will be explored. The student will be required to complete 10 hours within a licensed program or center to shadow the administrator.

ECE-285 Infant & Toddler Practicum 2 credit hours, 8 contact hours (1 hour lecture [seminar], 0 hours lab and 7 hours per week practicum experience). Prerequisite: C grade (2.00) or better in (ECE-141 or ECE-150 or ECE-160) or by permission of the ECD Program Director. Course is graded A-F. The student will engage in meaningful learning experiences in a program that cares for infants and toddlers. A seven hour a week practicum is required to plan and implement learning experiences with the guidance and supervision of a qualified cooperating teacher. The student will complete numerous required reports and bring to the practicum site developmentally appropriate learning experiences. The student must have a current Student Practicum/Field Experience File.

ECE-289 ECE Field Experience ECE-289 ECE Field Experience 2 credit hours, 7 contact hours (1 hour lecture [seminar], 0 hours lab and 6 hours per week field experience). Prerequisite: C grade (2.00) or better in EDU-101 ECE-105 ECE-110, ECE-120, ECE-130, ECE-141, ECE-150, ECE-160, ECE-170, ECE-180, ECE-285, EDU-100 and EDU-115, permission of the ECD Program Director, and concurrent enrollment in

ECE-220 and ECE-230. Course is graded A-F. This course will assist the student in applying the principles, methods and practices learned in content method courses. The student will participate in a licensed, supervised early childhood setting that has been prearranged and approved by the ECE Practicum Site Coordinator. The Student Practicum/Field Experience File must be current.

ECE-290 ECE Student Teaching Field Experience ECE-290 ECE Student Teaching Field Experience 3 credit hours, 14 contact hours (2 hours lecture [seminar], 0 hours lab and 12 hours per week field experience). Prerequisite: C grade (2.00) or better in all ECE/EDU 100-200 level courses; Concurrent enrollment (or previously earned C grade [2.00] or better) in ECE-260, ECE-279 and EDU-251, and permission of the ECD Program Director. Course is graded A-F. This course is designed to meet the final requirements for ODE Pre-kindergarten Associate Licensure by providing the opportunity for the student to assume responsibility for planning and assessing children's learning. Under the guidance and supervision of a qualified early childhood teacher and supervising faculty, the student will actively assume the role of teacher with in an early childhood program. A portfolio will be completed for review by faculty. The student will participate in seminar sessions to reflect on the teaching and learning process. To register, the student must meet with the ECD Program Director at least one month prior to the start of the semester. The student will be required to complete practicum hours in an approved early childhood preschool classroom.

ECON-105 Principles of MicroEconomics ECON-105 Principles of Microeconomics 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. Dealing with fundamentals of microeconomics, this course is designed to give the student a basic understanding of individual firms, and how they allocate their resources, price goods and services, and the factors of production in our economic system. How individual firms organize themselves and meet the competition, and behaviors of customers and supplies as well as government relative to supply and demand will be discussed. Elasticity and substitutions along with total revenue, total costs, marginal revenue, marginal costs, and profit analysis are researched. ECON-105 meets the Ohio Transfer Module standards for TMSBS and meets the Ohio Transfer Assurance Guide standards for OSS004.

ECON-110 Principles of MacroEconomics ECON-110 Principles of Macroeconomics 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None; Recommended preparation for this course is ECON-105. Course is graded A-F. Introduction to macroeconomic terminology and concepts, theory, and analysis, with emphases on national income accounts, fiscal policy and monetary policy, unemployment and inflation, money supply and interest rates, economic stability and business cycles, productivity and economic growth, the Federal Reserve System and the financial intermediaries, and aggregate supply and aggregate demand. The purpose of the course is to provide students with an introduction to major issues facing the world economies and to expose students to the methods that economists use to study and solve those issues and economic policy problems of the 21st century. ECON-110 meets the Ohio Transfer Module standards for TMSBS and meets the Ohio Transfer Assurance Guide standards for OSS005.

EDU-101 Introduction to Education EDU-101 Introduction to Education 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: BCI & FBI State and Federal with no convictions that would prevent participation with children in a school or center based setting. Course is graded A-F. This is a survey course for the introduction to the teaching profession. The student will engage in a variety of experiences that will broadly explore the purposes of schools in society and the

knowledge, dispositions and skills required to be an effective teacher. The student will demonstrate familiarity with the major themes of the teaching profession and explain how these issues impact the field of education. Observation sessions will be required in various grade levels. EDU-101 replaces EDU-100 Introduction to Education. EDU-101 meets the Ohio Transfer Assurance Guide standards for course OED007. EDU-101 meets the Career Technical Credit Transfer (C-TAG) standards for course CTED001.

EDU-201 Educational Psychology EDU-201 Educational Psychology 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course will present the major theories of human development, learning, motivation, instructional strategies, assessment and examine the similarities and differences in learners. The influences of school, home, community and culture in the student's learning and development will be examined. Candidates will be expected to demonstrate a disposition that all students can learn. EDU-201 replaces EDU-200 Educational Psychology. EDU-201 meets the Ohio Transfer Assurance Guide standards for OED008.

EDU-251 Exceptional Individuals EDU-251 Exceptional Individuals 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in ECE-141 or equivalent; or by permission of the ECD Program Director. Course is graded A-F. This is a survey course covering the identification, developmental characteristics and intervention strategies for exceptional children and youth across education and community settings. The student will complete a comprehensive Family and Child Study requiring field work with a family and the child's educational program. EDU-251 replaces EDU-250 Exceptional Individuals. EDU-251 meets the Ohio Transfer Assurance Guide standards for course OED009.

ELEC-113 Circuits I ELEC-113 Circuits I 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Co-requisite: MATH-150. Course is graded A-F. This introductory course presents the terminology and concepts necessary for understanding electrical units and laws and circuit analysis. Topics of study include direct current sources, series and parallel circuits, Ohm's law, Kirchoff's Laws, resistance, power, mesh analyses, capacitance, and inductance. Laboratory sessions include experiments, both simulated and bread boarded, verifying the lecture material through the proper use of voltmeters, ammeters, ohmmeters, and DC power supplies. ELEC-113 meets the Ohio Transfer Assurance Guide standards for course OET001 and meets the Ohio Career-Technical Assurance Guide standards for CTEET001.

ELEC-213 Circuits II ELEC-213 Circuits II 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in ELEC-113. Complete MATH-150. Course is graded A-F. The concepts introduced in Circuits I are reviewed and applied to AC circuits. AC phasers, AC series and parallel networks, impedance, resonance, transformers and tree phase power are new topics covered in this course. Laboratory experience includes use of function generators and oscilloscope, both simulated and real. ELEC-213 meets the Ohio Transfer Assurance Guide standards for course OET003.

ELEC-225 Communications Electronics I ELEC-225 Communication Electronics I 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: Complete MATH-150. Course is graded A-F. This course covers the theory and operation of commonly used analog and digital communications systems and introduces the operation of power supplies, oscillators, AF and RF amplifiers, AM Transmitters and Receivers, and SSB devices. Fundamental theory, design and construction issues and

troubleshooting techniques are discussed. Laboratory experiments consist of the construction and operation of basic circuits, and test and repair, using specialized test equipment.

ELEC-241 Digital Electronics I ELEC-241 Digital Electronics I 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in ELEC-113. Complete MATH-150. Course is graded A-F. This course emphasizes the study of digital logic elements and circuits, as well as the mathematics used in digital circuitry. ELEC-241 meets the Career Technical Credit Transfer (C-TAG) standards for course CTEET002.

ELEC-251 Digital Electronics II ELEC-251 Digital Electronics II 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in ELEC-241. Course is graded A-F. The architecture of a microprocessors and microcontrollers is studied in this course. This includes busses, memory devices, CPUs, I/O, and memory devices. Microcontroller programming will be introduced through laboratory projects which focus on the practical application of these devices.

ELEC-267 Linear Integrated Circuits ELEC-267 Linear Integrated Circuits 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in ELEC-113. Complete MATH-150. Course is graded A-F. The student will pursue the study of the theory and operation of semiconductor diode and transistor circuits. Equivalent circuits, large and small signal analysis, and biasing circuits are discussed, as well as junction field effect transistors, MOSFET, linear integrated circuits, operational amplifiers and optoelectronic devices. Laboratory sessions, both bread boarded and simulated, compliment study.

EMS-100 Basic Life Support (cpr) for Healthcare EMS-100 Basic Life Support (CPR) for the Healthcare Provider 0.50 credit hours, 8 total contact hours (2 total contact hours lecture and 6 total contact hours lab). Prerequisite: None. Course is graded S/U. This course will provide instruction and practice in adult, child and infant CPR, and use of an AED for healthcare providers. This is a one-day (8 total contact hours) course. This course is graded on a Satisfactory/ Unsatisfactory basis.

EMS-105 First Aid EMS-105 First Aid 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: None. Course is graded A-F. The student will study the emergency techniques utilized by persons rendering first aid prior to the arrival of emergency medical services providers. Training also includes American Heart Association BLS for Healthcare Providers (current standards) and the use of an Automated External Defibrillator (current standards). Course includes 40 hours of instruction.

EMS-120 Emergency Medical Technician EMS-120 Emergency Medical Technician 7 credit hours, 9 contact hours (6 hours lecture and 3 hours lab). Prerequisite: CPR Certification (Recommended), Course is graded A-F. This Emergency Medical Services course covers all aspects of emergency medical care in the field including equipment, controlling the situation, anatomy and physiology, medical and trauma emergencies, and airway control. This course at its successful completion allows the student to take the national registry exam to become certified at the EMT. This course provides a first phase of training in the career structure of the Emergency Medical Technician (EMT). The course covers all the knowledge and skills required for the state certification examination. Course includes 15 clock hours of clinical experience. A student must pass this course with a B- grade (3.00) or better and score a minimum of 70 percent on the final exam in order to graduate and be eligible to sit for the NREMT exam. EMS-120 meets Ohio Career Technical Credit Transfer (C-TAG) standards for course CTEMTB002.

EMS-120 meets Military Technical Credit Transfer (M-TAG) standards for courses AR-0709-0065V4, NUR 1332, & NUR 2351. .

EMS-200 Paramedic I EMS-200 Paramedic I 8 credit hours, 12 contact hours (6 hours lecture and 6 hours lab). Prerequisite: Ohio EMT certification; C grade (2.00) or better in HLT-110 (or concurrent enrollment in HLT-110); C grade (2.00) or better in HS BIO or BIO-010; Background Check passage, necessary immunizations and health physical on file with the EMS Program Director, and drug test passage. Course is graded A-F. The student will study the roles, responsibilities, and duties of an EMT-P including professional ethics and behavior. The preparatory stages related to the functioning of an EMT-Paramedic will be presented. The course will include instruction in the management of endocrine emergencies, allergies, anaphylaxis, gastrointestinal emergencies and respiratory emergencies.

EMS-225 Paramedic II EMS-225 Paramedic II 8 credit hours, 12 contact hours (6 hours lecture and 6 hours lab). Prerequisite: "B-" grade (2.70) or better in EMS-200 and a satisfactory grade in both EMS-280 and EMS-290; "C" grade (2.00) or better in HLT-110; Background Check passage, necessary immunizations and health physical on file with the EMS Program Director, and drug test passage. Course is graded A-F. This course will provide instruction in cardiology, major incident response, stress management, and the recognition, management and care of nervous system emergencies, emergencies, reproduction system emergencies, toxicology and substance abuse, infectious diseases, environmental emergencies, obstetrical and gynecological emergencies, neonatal emergencies, and behavioral and psychiatric emergencies, geriatric and pediatric emergencies.

EMS-250 Paramedic III EMS-250 Paramedic III 8 credit hours, 12 contact hours (6 hours lecture and 6 hours lab). Prerequisite: B- (2.70) or better in EMS-225 and satisfactory grade in both EMS-281 and EMS-291; concurrent enrollment in EMS-282 and EMS-292; Background Check passage, necessary immunizations and health physical on file with the EMS Program Director, and drug test passage. Course is graded A-F. This course will include instruction in the assessment and management of shock, trauma emergencies, burns, and common cardiac emergencies in the pre-hospital setting, as well as review of all paramedic knowledge and skills in preparation for national registry testing.

EMS-280 Paramedic I Clinical Lab EMS-280 Paramedic I - Clinical Lab 1.50 credit hours, 4.50 contact hours (0 hours lecture and 4.50 hours lab). Prerequisite: Concurrent enrollment in both EMS-200 and EMS-290; Background Check passage, necessary immunizations and health physical on file with the EMS Program Director, and drug test passage. Course is graded S/U. This course provides an introductory clinical patient contact experience. The student will work in a clinical setting where he/she will learn agency procedures and demonstrate the required emergency medical techniques to meet all EMS standards for EMS-Paramedic. This course is graded on a Satisfactory/ Unsatisfactory basis.

EMS-281 Paramedic II Clinical Lab EMS-281 Paramedic II - Clinical Lab 1.50 credit hours, 4.50 contact hours (0 hours lecture and 4.50 hours lab). Prerequisite: Concurrent enrollment in EMS-225 and EMS-291; Background Check passage, necessary immunizations and health physical on file with the EMS Program Director, and drug test passage. Course is graded S/U. This course provides extended clinical patient contact experience in which the student will display an advanced skill set. The student will work in a clinical setting where he/she will learn agency procedures and demonstrate the required emergency medical techniques to meet all EMS standards for EMS-Paramedic. This course is graded on a Satisfactory/ Unsatisfactory basis.

EMS-282 Paramedic III Clinical Lab EMS-282 Paramedic III - Clinical Lab 1.50 credit hours, 4.50 contact hours (0 hours lecture and 4.50 hours lab). Prerequisite: Concurrent enrollment in EMS-250 and EMS-292; Background Check passage, necessary immunizations and health physical on file with the EMS Program Director, and drug test passage. Course is graded S/U. This course is designed to provide the final clinical patient contact experience where the student will demonstrate mastery of skills. The student will work in a clinical setting where he/she will learn agency procedures and demonstrate the required emergency medical techniques to meet all EMS standards for EMS-Paramedic. This course is graded on a Satisfactory/ Unsatisfactory basis.

EMS-290 Paramedic I Directed Practice EMS-290 Paramedic I - Directed Practice 1.50 credit hours, 7.50 contact hours (0 hours lecture, 0 hours lab, and 7.50 hours directed practice [clinical]). Prerequisite: Concurrent enrollment in EMS-200 and EMS-280; Background Check passage, necessary immunizations and health physical on file with the EMS Program Director, and drug test passage. Course is graded S/U. This course is designed to provide introductory clinical patient contact experience. The student will work in a clinical setting where he/she will learn agency procedures and demonstrate the required emergency medical techniques to meet all EMS standards for EMS-Paramedic. This course is graded on a Satisfactory/ Unsatisfactory basis.

EMS-291 Paramedic II Directed Practice EMS-291 Paramedic II - Directed Practice 1.50 credit hours, 7.50 contact hours (0 hours lecture, 0 hours lab, and 7.50 hours directed practice [clinical]). Prerequisite: Concurrent enrollment in EMS-225 and EMS-281; Background Check passage, necessary immunizations and health physical on file with the EMS Program Director, and drug test passage. Course is graded S/U. This course provides extended clinical patient contact experience in which the student will display an advanced skill set. The student will work in a clinical setting where he/she will learn agency procedures and demonstrate the required emergency medical techniques to meet all EMS standards for EMS-Paramedic. . This course is graded on a Satisfactory/ Unsatisfactory basis.

EMS-292 Paramedic III Directed Practice EMS-292 Paramedic III - Directed Practice 1.50 credit hours, 7.50 contact hours (0 hours lecture, 0 hours lab, and 7.50 hours directed practice [clinical]). Prerequisite: Concurrent enrollment in EMS-250 and EMS-282; Background Check passage, necessary immunizations and health physical on file with the EMS Program Director, and drug test passage. Course is graded S/U. This course is designed to provide the final clinical patient contact experience where the student will demonstrate mastery of skills. The student will work in a clinical setting where he/she will learn agency procedures and demonstrate the required emergency medical techniques to meet all EMS standards for EMS-Paramedic. This course is graded on a Satisfactory/ Unsatisfactory basis.

ENGL-012 Co-Requisite Composition I ENGL-012 Co-Requisite Composition I 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: Placement in Co-requisite Composition I will depend on the College's multiple measures assessment OR the student's successful completion of GENR-090 with a C grade (2.00) or better; concurrent enrollment in ENGl-112C. This course will count neither for elective credit nor toward meeting the minimum credit hour requirements for graduation. Course is graded A-F. Co-requisite Composition I is designed to prepare students for successful completion of course work required in ENGL-112C Composition I. Course content provides an integrated approach to reading, writing, and critical thinking. Students will meet in a lab setting. The first hour will be lectured-based; the remaining two hours will be hands-on lab based. Credit for ENGL-

012 will count neither for elective credit nor toward meeting the minimum credit hour requirements for graduation.

ENGL-112 Composition I ENGL-112 Composition I 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: Appropriate placement per COTC Assessment and Placement policy or C grade (2.00) or better in GENR-091. Course is graded A-F. Composition I is a writing intensive theme-based course that facilitates the development of college-level writing skills. The student will compose papers using expository writing while incorporating one's own thinking with credible research using MLA format. The student also will be introduced to APA format guidelines. The course emphasizes critical thinking, analytical reading, thesis development and deep revision of one's own compositions. The course also includes analysis of audience and theme in one's own writing and the writings of others, while developing the student's critical reading skills. ENGL-112 Composition I replaces ENGL-110 Composition I. ENGL-112 meets the Ohio Transfer Module standards for course TME001.

ENGL-112C Composition I ENGL-112C Composition I 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Co-requisite: Concurrent enrollment in ENGL-012. Course is graded A-F. Composition I is a writing intensive theme-based course that facilitates the development of college-level writing skills. The student will compose papers using expository writing while incorporating one's own thinking with credible research using MLA format. The student also will be introduced to APA format guidelines. The course emphasizes critical thinking, analytical reading, thesis development and deep revision of one's own compositions. The course also includes analysis of audience and theme in one's own writing and the writings of others, while developing the student's critical reading skills. ENGL-112C is equivalent to ENGL-112 Composition I. ENGL-112C meets the Ohio Transfer Module standards for course TME001

ENGL-113 Composition II ENGL-113 Composition II 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in ENGL-112. Course is graded A-F. In this course, using the framework of the American experience theme, the student will continue to develop proficiencies in analytical reading, critical thinking, thesis development, deep revision, and research of credible sources. Composition II emphasizes problem solving with writing-intensive assignments grounded in argumentation. The student will evaluate readings from historical, social, and political perspectives. Examination of one's own position in relation to audience and evidence facilitates awareness of a writer's ethical responsibilities. Research of multiple sources using APA format is required. By the end of Composition II, the student will have written a variety of texts, including at least one researched essay, with opportunities for112 response and revision. This formal writing will total a minimum of 20 pages. ENGL-113 Composition II replaces ENGL-111 Composition II. ENGL-113 meets the Ohio Transfer Module standards for course TME002.

ENGL-208 Technical Writing ENGL-208 Technical Writing 3 credit hours, 4 contact hours (2 hours of lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in ENGL-112. Course is graded A-F. Technical Writing strengthens the student's composition skills in technical communications employed in information technology, engineering, industry and health and social sciences. The student will examine the various contexts for employing technical communications, the available and appropriate means of conveying technical information, and the needs and goals of various audiences in reading and employing technical communications. The course emphasizes both concise and effective technical writing strategies and the ability to present this information clearly using oral communication.

The course also stresses the value of collaborative projects in the workplace. The student will employ a variety of technological resources, including websites, research databases, PowerPoint, and Microsoft Publisher to analyze and create documents and presentations both individually and collaboratively. ENGL-208 replaces ENGL-206 Technical Writing.

ENGL-211 Survey American Literature I ENGL-211 Survey of American Literature I 3 credit hours, 3 contact hours (3 hours of lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in ENGL-112. Course is graded A-F. Survey of American Literature I is designed to expose students to a wide range of early American literature. In this course, the student will examine the works of major writers in the U.S., from the early settlements to 1865. The student will read and critically analyze various genres, including essays, short stories, fiction, and the novel. The student will also use literary criticism and theories including, but not limited to, biographical criticism, gender criticism, historical criticism, psychological theories, and reader-response theories. Through a series of close readings, discussions, reader responses, critical essays, and argumentative papers, the student will trace the development of both literary and cultural movements such as Puritanism, Romanticism and Transcendentalism. ENGL-211 meets the Ohio Transfer Module standards for course TMAH and also meets the Ohio Transfer Assurance Guide standards for OAH053.

ENGL-212 Survey American Literature II ENGL-212 Survey of American Literature II 3 credit hours, 3 contact hours (3 hours of lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in ENGL-112. Course is graded A-F. Survey of American Literature II is designed to expose the student to a wide range of later American literature. In this course, the student will examine the works of major writers in the U.S., beginning with the years following the Civil War and leading up to the present day. The student will read and critically analyze various genres, including essays, short stories, fiction, drama, and the novel. The student will also use literary criticism and theories including, but not limited to, biographical criticism, gender criticism, historical criticism, psychological theories, and reader-response theories. Through a series of close readings, discussions, reader responses, critical essays, and argumentative papers, the student will trace the development of both literary and cultural movements such as Realism and Modernism. ENGL-212 meets the Ohio Transfer Module standards for course TMAH and also meets the Ohio Transfer Assurance Guide standards for OAH054.

ENGL-216 Writing About Literature ENGL-216- Writing About Literature 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in ENGL-112. Course is graded A-F. This course concentrates on further development of the student's college-level writing skills, including the writing process and MLA format, while providing fundamental exposure to the following genres: nonfiction, historical fiction, poetry and drama. Through analysis and interpretation of literary themes, close readings, discussions, critical essays, and expository and argumentative papers, the student will apply various critical approaches to reading and responding to literature, including reader-response, biographical, historical, psychological, and cultural. The student will engage in these individual and collaborative experiences to enhance self-understanding and deepen perspectives about the world as portrayed through the written word. ENGL-216 Writing About Literature replaces ENGL-215 Writing About Literature. ENGL-216 meets the Ohio Transfer Module standards for course TME-002.

ENGL-221 Survey British Literature I ENGL-221 Survey of British Literature I 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in ENGL-112.

Course is graded A-F. This course provides the student with a general background in the literary, philosophical, and historical trends from the Middle Ages through the eighteenth century in Britain. The student will examine representative works from this historical period, tracing developments in style, language, and genre. The student will also make connections between the literature and the social and political events that contributed to its production. The student will use literary criticism and theories including, but not limited to, biographical criticism, gender criticism, historical criticism, psychological theories, and reader-response theories. Through a series of close readings, discussions, reader responses, critical essays, and argumentative papers, the student will trace the development of historical, cultural, and literary movements, such as the Middle Ages, Renaissance, Restoration, and Enlightenment. ENGL-221 meets the Ohio Transfer Module standards for course TMAH and also meets the Ohio Transfer Assurance Guide standards for OAH055.

ENGL-222 Survey British Literature II ENGL-222 Survey of British Literature II 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in ENGL-112. Course is graded A-F. This course provides the student with a general background in the literary, philosophical, and historical trends from 1800 to the present in Britain. The student will examine representative works from this historical period, tracing developments in style, language, and genre. The student will also make connections between the literature and the social and political events that contributed to its production. The student will use literary criticism and theories including, but not limited to, biographical criticism, gender criticism, historical criticism, psychological theories, and reader-response theories. Through a series of close readings, discussions, reader responses, critical essays, and argumentative papers, the student will trace the development of historical, cultural, and literary movements, such as the Romantic period, Victorian period, and the Twentieth Century. ENGL-222 meets the Ohio Transfer Module standards for course TMAH and also meets the Ohio Transfer Assurance Guide standards for course OAH056.

ENGR-100 Introduction to Engineering Technologies ENGR-100 Introduction to Engineering Technologies 1 credit hour, 1 contact hour (1 hour lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. The course is an introduction to engineering technologies. The course will cover different areas of engineering technology, professional opportunities, College resources, ethical decision-making, teamwork, problem-solving approaches, the relationship of engineering technology to the wider world, and communicating to diverse audiences.

ENGR-106 Computer Apps for Engineering Techs ENGR-106 Computer Applications for Engineering Technicians 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: None. Course is graded A-F. This course equips the students with skills to create professional engineering documents with a personal computer. Emphasis is to enable students to effectively communicate in writing for personal and in professional engineering work place. Upon completion, students would be able to create professional engineering documents such as proposals and spreadsheets for various types of presentations.

ENGR-205 Engineering Tech Leadership & Supervisio ENGR-205 Engineering Technology Leadership and Supervision 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in ENGL-112. Course is graded A-F. The course surveys topics related to supervision and leadership in engineering technologies, including management of persons

and projects, team building, quality control, productivity, public relations, problem-solving, decision-making, and legal aspects of supervision.

ENGR-279 Engineering Tech Capstone ENGR-279 Engineering Technology Capstone 2 credit hours, 6 contact hours (0 hours lecture and 6 hours lab). Prerequisite: Completion of a minimum of 24 semester hours from an Engineering Technologies Plan of Study or permission of the instructor. Course is graded A-F. This is the design capstone course for students in the Architectural, Civil, Electrical and Mechanical Engineering Technologies programs. The course emphasizes small group projects requiring interaction between students from various engineering technology disciplines. The students will use knowledge acquired during the completion of the courses for their engineering technology major, as well as gained knowledge from project work with from other disciplines. The projects will require planning, group participation and collaboration, and efficient use of lab time. Student groups will present their project, both orally and in report form. ENGR-279 replaces courses ENGRTCH-278 Electromechanical Design Capstone, and ARCH-255 Architectural and Civil Design Capstone.

ENGR-296 Engineering Tech Cooperative ENGR-296 Engineering Technology Cooperative 3 credit hours, 20 contact hours (1 hour lecture, 0 hours lab and 20 hours per week co-op experience). Prerequisite: Completion of a minimum of 24 semester hours from an Engineering Technologies Plan of Study or permission of the instructor. Course is graded A-F. This course offering is composed of work experience in industry under the supervision of an architect, engineer, plant manager, or equivalent, in the student's major area of study. The facility may be chosen by the student with approval of, and coordination with the Engineering Technologies faculty member. This course, to be taken toward the end of the student's two-year program, is designed to give the student real-world, office or industry work experience utilizing the skills acquired earlier in the program. The course acts as a capstone, tying the concepts of the technology together and giving the student valuable job experience before graduation. ENGR-296 replaces ARCH-295 Co-op Experience and ARCH-296 Co-op Experience.

ETD-150 Electric Motors and Generators "ETD-150 Electric Motors and Generators 3 credit hours, 5 contact hours (2 hours of lecture and 3 hours of lab) Course Prerequisite: Complete MATH-150; C grade (2.00) or better or concurrent enrollment in ELEC-213. Course is graded A-F. This course covers the use and control of electrical machines. Operation of generators and different types of electrical motors (DC and AC) including single and three phase motors and their operating characteristics are explored. Basic motor control devices and circuits as well as motor control systems are studied. This course also introduces the students to the operation of the Programmable Logic Controllers and SCADA systems. Laboratory exercises reinforce theory and provide students with hands-on experience."

ETD-260 Electric Transmission & Distribution I "ETD-260 Electric Transmission & Distribution I 3 credit hours, 5 contact hours (2 hours of lecture and 3 hours of lab) Course Prerequisite: C grade (2.00) or better in ETD-150. Course is graded A-F. This course introduces concepts of system operating maps, station One-line diagrams, and dispatch map boards. The course will also cover electric transmission and distribution, transmission lines, power distribution transformers, fault interrupting devices, disconnect and switches, and power compensation devices. Laboratory exercises reinforce theory and provide students with hands on experience."

ETD-270 Electric Transmission & Distribution II "ETD-270 Electric Transmission & Distribution II 3 credit hours, 5 contact hours (2 hours of lecture and 3 hours of lab) Course Prerequisite: C grade

(2.00) or better in ETD-260. Course is graded A-F. This course provides students with an understanding of electrical power generation, steady state power flow, load flow studies, station service transformers, mobile station and transformers, service power system protection, and system metering. This course also covers substation and the basic equipment found in switchyards and substations, including circuit breakers, arresters, batteries and battery chargers. Students will learn about various protection schemes, protective relays, and special switching consideration. Laboratory exercises reinforce theory and provide students with hands on experience."

FIRE-100 Firefighter Health and Safety FIRE-100 Firefighter Health and Safety Program 3 credit hours, 3.5 contact hours (2 hours lecture and 1.5 hours lab). Prerequisite C grade (2.00) in FIRE-111 or Concurrent Enrollment in FIRE-111. Course is graded A-F. Firefighter Health and Safety program instructs firefighters and firefighter recruits in the proper way to stay healthy and fit for duty at all times. The student is given an understanding of the importance of the Sixteen Firefighter Life Safety Initiatives and about the National Fallen Firefighter Near-Miss Program. Firefighter rehabilitation is discussed. The importance of Crew Resource Management (CRM) is emphasized throughout the course. Firefighter nutrition and wellness concepts are introduced. Proper methods of physical fitness are demonstrated and implemented. The physical fitness portion of the program provides vital training to improve the firefighter's overall physical endurance and ability to perform his/her duties. The student is required to document their dietary intake and fitness activities, demonstrating application of classroom instruction.

FIRE-101 Firefighter Health and Safety Program FIRE-101 Firefighter Health and Safety Program 2.50 credit hours, 3.50 contact hours (2 hours lecture and 1.50 hours lab). Prerequisite: Enrollment in Fire Science Technology program. C grade (2.00) or better in FIRE-111 (or concurrent enrollment in FIRE-111). Course is graded A-F. Firefighter Health and Safety program instructs Firefighter Recruits in the proper way to stay healthy and fit for duty at all times. The student is taught the Sixteen Firefighter Life Safety Initiatives and about the National Fallen Firefighter Near-Miss Program. Firefighter nutrition and wellness concepts are introduced with the student required to document his/her dietary intake demonstrating application of classroom instruction. Proper methods of physical fitness are demonstrated and implemented. Firefighter rehabilitation is discussed. The physical fitness portion of the program provides vital training to improve the firefighter's overall physical endurance and ability to perform his/her duties without sustaining musculoskeletal injuries.

FIRE-110 Principles of Emergency Services FIRE-110 Principles of Emergency Services 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course provides an overview to fire protection and emergency services, career opportunities in fire protection and related fields, culture and history of emergency services, fire loss analysis, organization and function of public and private fire protection services, fire departments as part of local government, laws and regulations affecting the fire service, fire service nomenclature, specific fire protection functions, basic fire chemistry and physics, introduction to fire protection systems, introduction to fire strategy and tactics, and life safety initiatives. FIRE-110 meets the Ohio Transfer Assurance Guide standards for course OFS004.

FIRE-111 FireFighter I FIRE-111 Fire Fighter I 7 credit hours, 12 contact hours (4 hours lecture and 8 hours lab). Prerequisite C grade (2.00) or better in GENR-090 and MATH-040 (or appropriate score on appropriate placement per COTC Assessment and Placement policy). Concurrent enrollment in

FIRE-101 and certificate of completion of NIMS IS-100.b (ICS 100) Introduction to Incident Command System and IS-700.a National Incident Management Command System instruction. Student must produce a copy of each certificate of completion and bring the certificates the first day of class. Course is graded A-F. This course prepares the individual to perform the duties of Fire Fighters. This includes instruction in basic fire-fighting equipment operation and maintenance, principles of fire science and combustible substances, methods of controlling different types of fires, hazardous material handling and control, fire rescue procedures, public relations and applicable laws and regulations. FIRE-111 replaces FIRE-102 FireFighter I. FIRE-111 meets the Ohio Career-Technical Assurance Guide standards for CTFF002.

FIRE-112 FireFighter II FIRE-112 Fire Fighter II 4 credit hours, 7 contact hours (2 hours lecture and 5 hours lab). Prerequisite: C grade (2.00) or better in FIRE-111 or concurrent enrollment in FIRE-111. Course is graded A-F. This course prepares individuals to perform additional duties of a Fire Fighter. It includes advanced instruction in fire department communication, preparedness, fire ground and rescue operations. The course also covers the prevention of fire and maintenance of fire equipment. FIRE-112 replaces FIRE-103 Fire Fighter II. FIRE-112 meets the Ohio Career-Technical Assurance Guide standards for CTFF003.

FIRE-113 Introduction to Technical Rescue FIRE-113 Introduction to Technical Rescue 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: State of Ohio certified Firefighter I. Hazardous Materials: Operations. NIMS 100, NIMS 700. Good Physical condition. Course is graded A-F. This course is an introduction to technical rescue and covers NFPA 1006, chapters 4 and 5. This course also introduces students to surface water rescue. Students will be required to attend skill and knowledge assessments during this course.

FIRE-114 Rope Rescue FIRE-114 Rope Rescue I 1 credit hour, 2 contact hours (0.50 hours lecture and 1.50 hours lab). Prerequisite: FIRE-113. Course is graded A-F. This course covers basic rope rescue techniques and material contained in NFPA 1006, Standard for Technical Rescue Personnel Professional Qualifications and the operations level of NFPA 1670, Standard on Operations and Training for Technical Search and Rescue Incidents. Rigging, critical angle, mechanical advantage systems, repelling, self-rescue techniques, lowering systems and low angle techniques will be presented and practiced.

FIRE-115 Rope Rescue II FIRE-115 Rope Rescue II 1 credit hour, 2 contact hours (0.50 hours lecture and 1.50 hours lab). Prerequisite: FIRE-114. Course is graded A-F. This is an advanced course that covers essential skills needed in emergency rescue services, building upon those skills acquired in Rope Rescue I. This course focuses on litter rigging, high-line applications and leadership on the rescue scene. Students will apply knowledge, practical skills and tactics in "real life scenarios".

FIRE-116 Confined Space Rescue I & II FIRE-116 Confined Space Rescue I & II 1 credit hour, 1.50 contact hours (0.50 hours lecture and 1.00 hours lab). Prerequisite: FIRE-114. Course is graded A-F. This course combines knowledge, skills and abilities for both level I and II of Confined Space Rescue (Awareness, Operations and Technician Level). This course covers atmospheric monitoring, basic equipment overview, rescuer care, patient packaging and other critical components of this discipline up to and including the execution of a confined space rescue with the aid of a pre-plan. Students will gain access through openings as small as 16 inches in diameter.

FIRE-117 Vehicle & MacHinery Rescue I & II FIRE-117 Vehicle and Machinery Rescue I & II 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: None. Course is graded A-F. Students are introduced to many different aspects covering machinery and design, access and disentanglement of victims while developing a planned response all the way through termination of the event. An important part of this process will include vehicle/equipment stabilization and energy isolation. Students will have access to multiple passenger vehicles, small machinery, large commercial vehicles and machinery.

FIRE-118 Swift Water Rescue FIRE-118 Swift Water Rescue I 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: FIRE-114. Course graded A-F. This course meets the standards for NFPA 1670 as an operations-trained responder for swift water rescue. Remote or indirect rescues are the primary focus and boat handling skills will be presented. A swimming test will be given and swimwear is required for pool tests. Outdoor sessions require adequate clothing for in-water exposure. Personal protective gear and equipment may be used with instructor approval.

FIRE-119 Trench Rescue I & II FIRE-119 Trench Rescue I & II 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: FIRE-116. Course graded A-F. Students will begin with the concrete trench training prop and finish with multiple live trench rescue scenarios. Students will learn various shoring techniques, assorted trench layouts, hazard control scenarios, scene management, rescue vs. recovery operations and termination procedures for a trench rescue incident

FIRE-120 Fire Prevention FIRE-120 Fire Prevention 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course provides fundamental knowledge relating to the field of fire prevention. Topics include the following: history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use and application of codes and standards, plans review, fire inspections, fire and life safety education, and fire investigation.

FIRE-122 Structural Collapse Rescue Operations FIRE-122 Structural Collapse Rescue Operations 1 credit hour, 2 contact hours (0.50 hours lecture and 1.50 hours lab). Prerequisite: FIRE-119. Course is graded A-F. This course provides students with the operational knowledge, skills and abilities to perform rescue at structural collapse scenes. The course is designed for light frame and masonry collapse response. Students must be in good physical condition and have safety glasses, safety helmet (rescue style preferred), work boots and rescue gloves. Clothing should be appropriate for outdoor evolutions, regardless of weather conditions.

FIRE-125 Building Construction-Fire Protection FIRE-125 Building Construction for Fire Protection 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in FIRE-111. Course is graded A-F. This course provides the components of building construction related to firefighter and life safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies.

FIRE-140 Prin Fire & Emergency Services Safety & FIRE-140 Principles of Fire and Emergency Services Safety and Survival 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in FIRE-111. Course is graded A-F. This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services.

FIRE-165 Fire&EmergencyServicesAdministration FIRE-165 Fire and Emergency Services Administration 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course introduces the student to the organization and management of a fire and emergency services department and the relationship of government agencies to the fire service. Emphasis is placed on fire and emergency service, ethics, and leadership from the perspective of the company officer.

FIRE-215 Fire Protection Systems FIRE-215 Fire Protection Systems 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in FIRE-111. Course is graded A-F. This course provides information relating to the features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers.

FIRE-230 Fire Behavior & Combustion FIRE-230 Fire Behavior and Combustion 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in Fire-111. Course is graded A-F. This course explores the theories and fundamentals of how and why fires start, spread, and are controlled. FIRE-230 meets the Ohio Assurance Guide standards for course OFS003.

FIRE-270 Current Issues in Fire Services FIRE-270 Current Issues in the Fire Service 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in FIRE-111. Course is graded A-F. This course offers the student the opportunity to examine in-depth current issues affecting the Fire Service. Areas covered include development and research in contemporary methods, techniques, and devices in the field. Topics differ with each offering.

FOR-100 Intro to Forensic Technology "FOR-100 Introduction to Forensic Science 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: None. Course is graded A-F. This is an introductory course which explores the history and scope of forensic science. The scope of this course includes discovery at a crime scene, the location of evidence; physical evidence; analytical techniques for organic and inorganic materials; forensic toxicology; firearms, ammunition, unique tool marks, and various impressions (e.g., shoe prints, fabric properties, and bloodstains). FOR-100 is a new course in the Semester system."

FOR-102 Forensic Photography FOR-102 Forensic Photography 4 credit hours, 6 contact hours (3 hours lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. This course will teach the student forensic photography and various uses of photography in the criminal justice system. The student will learn the history of photography. There will be hands-on experience with the use of various cameras, including the 35mm film camera, digital cameras and videography. The student will learn crime scene photography and alternative light sources. Legal aspects of forensic photography will be discussed and court presentation of photographs will be done in a moot court. A crimes scene photographic report will be prepared. FOR-102 replaces FORSCI-102 Forensic Photography in the Semester system. Both FOR-102 and FORSCI-102 replace FOR-5524 Forensic Photography I and FOR-5525 Forensic Photography II in the Quarter system.

FOR-103 Intro to Fire Origin & Causes FOR-103 Introduction to Fire Origin and Cause 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Eligible to enroll in ENGL-112 (appropriate placement per COTC Assessment and Placement policy or C grade (2.00) or better in GENR-091). Course is graded A-F. The purpose of this course is to be able to determine the cause of fires and

explosions. Finding the point of origin and determining the cause at a scene will be discussed. Familiarity with chemical and physical principles is necessary in these investigations, and the conditions which influence the growth, spread, and development will be reviewed. Emphasis will be placed on techniques for debris removal and scene reconstruction and examination of evidence. FOR-103 replaces FORSCI-103 Introduction to Fire Origin and Cause in the Semester system. Both FORSCI-103 and FOR-103 replace FOR-5550 Introduction to Fire Origin and Cause in the Quarter system.

FOR-105 Forensic Investigations FOR-105 Forensic Investigations 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. This course will cover forensic and general investigative techniques. The student will study the fundamentals of interviews and interrogations and their legal aspects, working with informants and sources, crime scene searches, evidence handling and packaging, chain of custody issues, crime scene reports and sketching. This course will prepare the student for the advanced courses of criminalistics. FOR-105 replaces FORSCI-105 Forensic Investigations in the Semester system. Both FOR-105 and FORSCI-105 replace FOR-5516 Forensic Investigations and FOR-5520 Legal/Evidentiary Aspects of Forensics in the Quarter system.

FOR-106 Survey of Fraud in Society FOR-106 Survey of Fraud in Society 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: Eligible to enroll in ENGL-112 (appropriate placement per COTC Assessment and Placement policy or C grade (2.00) or better in GENR-091). Course is graded A-F. This course provides an overview of the field of questioned documents examination, computer crimes and fraud in society. The student will compare handwriting samples, obliterated texts, and different printing and writing instruments to detect forgeries and frauds. Preparation of affidavits, search warrens, and the techniques of seizing computers and computer-related equipment will also be examined. The nature of fraud in society and who commits it will be reviewed. The prevention, detection, and investigation of fraud will also be examined. FOR-106 replaces FORSCI-106 Survey of Fraud in Society in the Semester system. Both FOR-106 and FORSCI-106 replace FOR-5552 Survey of Fraud in Society, Questioned Documents, and Computer Crimes First Responder in the Quarter system.

FOR-150 Introduction to Computer Forensics FOR-150 Introduction to Computer Forensics 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in FOR-100. Course is graded A-F. This is an introductory course in computer and digital forensics. The course covers the principles, procedures, and techniques used in computer forensic crime investigations. Topics include understanding computer investigations, current computer forensics tools, processing crime and incident scenes, and digital evidence controls. Students are introduced to file systems, data acquisition, and computer forensics analysis. FOR-150 is a new course in the semester system.

FOR-201 Forensic Criminalistics I FOR-201 Forensic Criminalistics I 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better FOR-100, in high school biology (or BIO-010), high school chemistry (or CHEM-020), and MATH-130 (or appropriate placement per COTC Assessment and Placement policy). Recommend completion of or concurrent enrollment in BIO-160 and ENGL-112. Course is graded A-F. Forensic Criminalistics is the application of science to those criminal and civil laws that are enforced by police agencies in a criminal justice system. The scope of this course includes discovery at a crime scene, documentation and preservation, and the analysis of evidence. The student will be involved in the study and application of forensic science techniques with emphasis on

fingerprints, shoeprint, firearms, tool marks and other impression evidence. FOR-201 is a new course in the semester system.

FOR-202 Forensics Criminalistics II FOR-202 Forensic Science Criminalistics II 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in FOR-101. Course is graded A-F. Through lecture, demonstration and hands-on experience, the student will learn and apply scientific crime detection techniques including ballistics, trace metal detection, gun powder residue, hair and fiber evidence, paint comparison, and physical comparisons. The student will participate in courtroom testimony as an expert witness. FOR-202 replaces FORSCI-204 Forensic Science Criminalistics II in the Semester system. Both FOR-202 and FORSCI-204 replace FOR-5514 Forensic Firearms and FOR-5531 Forensic Criminalistics II in the Quarter system.

FOR-204 Forensics Criminalistics II FOR-204 Forensic Science Criminalistics II 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in FOR-201. Course is graded A-F. Through lecture, demonstration and hands-on experience, the student will learn and apply scientific crime detection techniques including ballistics, trace metal detection, gun powder residue, hair and fiber evidence, paint comparison, and physical comparisons. The student will participate in courtroom testimony as an expert witness. FOR-204 replaces FORSCI-204 Forensic Science Criminalistics II in the Semester system. Both FOR-204 and FORSCI-204 replace FOR-5514 Forensic Firearms and FOR-5531 Forensic Criminalistics II in the Quarter system.

FOR-205 Toxicology & Lab Instrumentation & Analy FOR-205 Toxicology and Laboratory Instrumentation and Analysis 4 credit hours, 6 contact hours (3 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in (CHEM-100 or higher) (MATH-130 or higher) and ENGL-112. Course is graded A-F. This course introduces the student to the principles of pharmacology and the relationship of drugs and other chemicals to adverse effects upon human health or behavior. The student will learn the basic tools necessary for drug identification and quantification. Basic principles of drug level interpretations are also covered. FOR-205 replaces FORSCI-205 Toxicology and Laboratory Instrumentation and Analysis in the Semester system. Both FOR-205 and FORSCI-205 replace FOR-5532 Introduction to Laboratory Instrumentation and FOR-5534 Instrumentation Analysis and FOR-5535 Forensic Toxicology in the Quarter system.

FOR-206 Forensic Serology FOR-206 Forensic Serology 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C (2.00) grade or better in (CHEM-100 or higher),(MATH-130 or higher), ENGL-112, FOR-101 and FOR-204. Course is graded A-F. This course is an overview of the field of serology with an emphasis on forensic application. Traditional immunological techniques used for identification and blood grouping of fluids and dried stains will be emphasized by lecture and lab. The principles of DNA testing will be explained and demonstrated. The student will learn to apply the most appropriate technique to specific serological circumstances. FOR-206 replaces FORSCI-206 Forensic Serology in the Semester system. Both FOR-206 and FORSCI-206 replace FOR-5547 Forensic Serology in the Quarter system.

FOR-207 Forensic Science Capstone FOR-207 Forensic Science Capstone 3 credit hours, 7 contact hours (1 hour lecture and 6 hours lab). Prerequisite: C grade (2.00) or better in FOR-102. FOR-105, FOR-204, FOR-205 and FOR-206. Course is graded A-F. The student will work in teams and fully process a major crime scene, fully examine the evidence sized at the crime scene and conduct the follow up investigative activities including witness, suspect and subject interviews; with a moot court

presentation. In this course the student will demonstrate a mastery of his/her program of study in a meaningful culmination of his/her degree requirements. Topics covered during the capstone will allow the student to review, analyze, and integrate previous course work. FOR-207 replaces FORSCI-207 Forensic Science Capstone in the Semester system. Both FOR-207 and FORSCI-207 replace FOR-5548 Advanced Crime Scenes in the Quarter system.

FOR-240 Forensic Laboratory Techniques FOR-240 Forensic Laboratory Techniques 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in high school chemistry (or CHEM-020) and MATH-130 (or appropriate placement per COTC Assessment and Placement policy). Recommend completion of or concurrent enrollment in CHEM-110 and ENGL-112. Course is graded A-F. This course introduces the student to the principles and procedures of various analytical analyses performed in a Forensic Science laboratory. The course includes the following topic area: laboratory safety and chemical handling, standard operating procedures, pH measurement, the balance, preparation of solutions, extractions, volumetric analysis, and the principles of spectroscopy and chromatorgraphy. FOR-240 is a new course in the semester system.

FOR-250 Forensic Biology & Intro to DNA FOR-250 Forensic Biology and Introduction to DNA 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in high school biology (or BIO-010), high school chemistry (or CHEM-020), and MATH-130 (or appropriate placement per COTC Assessment and Placement policy). Recommend completion of or concurrent enrollment in BIO-160 and ENGL-112. Course is graded A-F. This course explores the fields of forensic serology and forensic DNA analysis. The course will provide students with the techniques used to identify biological evidence and the methodology to analyze it. The course includes the following topic areas: sources of DNA evidence, serology concepts and techniques, identification of blood, semen, saliva, and other biological fluids, an introduction into the human genome, PCR amplification, STR Profiling, DNA databases, and the evaluation of forensic DNA profiling results. FOR-250 is a new course in the semester system.

GENR-090 Integrated Reading and Writing I GENR-090 Integrated Reading and Writing I 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: Appropriate placement per COTC Assessment and Placement policy. Course is graded A-F. The course will count neither for elective credit nor toward meeting minimum credit hour requirements for graduation. Integrated Reading and Writing I strengthens the student's reading and writing skills essential for college success. The student will engage in active reading strategies to promote analysis and retention of information. The course requires analysis of multiple reading genres, including textbooks, fiction, autobiography, academic articles, opinion editorials, and works of investigative journalism. The course also addresses visual and media sources as significant contributors to reading comprehension. The writing process is intimately linked to reading methods in the course. The student will compose narrative, informative, and argument paragraphs and an essay in conjunction with reading these forms of writing. The student will engage in pre-writing, drafting, and revision as part of the writing process. GENR-090 is a pre-college course. Credit for GENR-090 will count neither for elective credit nor toward meeting the minimum credit hour requirements for graduation.

GENR-091 Integrated Reading and Writing II GENR-091 Integrated Reading and Writing II 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: Appropriate placement per COTC Assessment and Placement policy or C grade (2.00) or better in GENR-090. Course is graded A-

F. The course will count neither for elective credit nor toward meeting minimum credit hour requirements for graduation. Integrated Reading and Writing II prepares the student for critical reading, writing, and research at the college level. This course engages the student in applying critical reading and content analysis skills to assigned textbook, non-fiction and fiction readings. The student will apply basic conventions of grammar, punctuation, and diction in writing assignments such as summaries and expository essays that relate to selected readings and research. The student will employ standard expository essay structure in assignments that require locating and evaluating research sources. Through in-class and online writing samples, the student will analyze purpose, audience, as well as the quality of introductions, body paragraphs, and conclusions. Research in biographical and in historical information about selected authors will be emphasized. GENR-091 is a pre-college course. Credit for GENR-091 will count neither for elective credit nor toward meeting the minimum credit hour requirements for graduation.

HIST-100 American Politics & Governmen HIST-100 American Politics & Government 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Successful completion of ENGL-112-Composition I with a grade of "C" or better. Course is graded A-F. This course surveys the social world of American politics, the development of politics in relation to changes in society, the economy, and the influences of culture on the politics of the United States. Among the topics discussed are the basic concepts, structures, theories, and processes of the American system of government. In addition, the course discusses topics such as human behavior, the structure of societies, cultures, institutions, and the processes by which all interact. The course also includes critical thinking and communication to analyze what the American political process is and how it works. Consequently, this course examines American political institutions and behavior with regard to history, theories of American democracy, the national government, federalism, and the political processes that include political parties, elections, and public opinion. HIST-100 meets the Ohio Transfer Assurance Guide OSS011 American Politics/Government, Political Science

HIST-150 US History I: to 1877 HIST 150 U.S. History I: To 1877 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None; ENGl-113 or ENGL-215 recommended. Course is graded A-F. This course surveys the political, social, economic, and cultural development of the United States from pre-history and European exploration through Reconstruction. Among the topics covered are colonization, slavery, the establishment of the new nation, the displacement of native peoples, sectional problems, national growth, the Civil War and Reconstruction. HIST-150 meets the Ohio Transfer Assurance Guide standards for course OHS043. HIST-150 in combination with HIST-151 meets the Ohio Transfer Assurance Guide standards for OHS-010. course OHS043.

HIST-151 US History II: Since 1877 HIST-151 U.S. History II: Since 1877 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None; ENGl-113 or ENGL-215 recommended. Course is graded A-F. This course surveys the political, social, economic, and cultural development of the United States from Reconstruction through the end of the twentieth century. Among the topics discussed are westward movement, industrialization, immigration, the labor movement, imperialism, progressivism, World War I, the Great Depression, the New Deal, World War II, the Cold War, Vietnam, and the transition to an information economy. HIST-151 replaces HIS-1331 U.S. History II: Since 1877 in the Quarter System. HIST-151 meets the Ohio Transfer Assurance Guide standards for course OHS043. HIST-151 in combination with HIST-150 meets the Ohio Transfer Assurance Guide standards for OHS-010.

HLT-100 Community Health HLT-100 Community Health 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: Concurrent enrollment in HLT-101. Course is graded A-F. This course includes a focus on the knowledge and understanding of health problems in the community, including communicable disease management, consumer safety and environmental health. An overview of disaster preparedness is included. This course requires a volunteer community service learning project.

HLT-101 Community Health Worker I HLT-101 Community Health Worker I 4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: Concurrent enrollment in HLT-100. This course introduces the student to the health care delivery system, exploring methods of providing basic patient care, as well as information on infection control and patient safety. An introduction to healthcare worker safety in a community and/or a home environment is included. A basic overview of pertinent health data, anatomy & physiology, life span development, communication, biomedical terminology, documentation and reporting, confidentiality and caregiver issues is provided.

HLT-102 Community Health Worker II HLT-102 Community Health Worker II 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in HLT-100 and HLT-101; concurrent enrollment in HLT-103. This course builds upon the CHW I course and introduces the student to the role and responsibilities of the Community Health Worker. The course includes an overview of problem solving, client advocacy, referral procedures and services, health care across the lifespan, and safety for the home visitor. The role of the Community Health Worker in health education and wellness is discussed.

HLT-103 Community Health Worker Practicum HLT-103 Community Health Worker Practicum 2.50 credit hours, 15 contact hours (1 hour lecture, 0 hours lab and 14 hours practicum). Prerequisite: C grade or better in HLT-100 and HLT-101; concurrent enrollment in HLT-102 This clinical course builds upon the CHW I and II courses and provides the student the opportunity for application of the Community Health Worker role in a practice setting. The student will apply an understanding of health promotion in the home and community settings to foster wellness and effective management of disease states. Students must complete a minimum of 130 clock hours in the clinical setting to successfully complete this course. HLT-103 is a new course in the Semester system.

HLT-104 Social Gerontology HLT-104 Social Gerontology 2.50 credit hours, 2.50 contact hours (2.50 hours lecture, 0 hours lab). Prerequisite: None. Course is graded A-F. This course introduces the student to an understanding of the aging process. It utilizes a holistic approach to introduce key concepts of healthy aging as well as barriers and prejudices encountered in the aging process. The course will examine the role of health professionals, family members, and communities in meeting the needs of older adults. The student will have the opportunity to explore the ideals of healthy elders and reflect on their views related to the older population.

HLT-110 Medical Terminology HLT-110 Medical Terminology 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: None. Recommend completion of or concurrent enrollment in pre-college or college-level composition course. Course is graded A-F. This course is designed to introduce the student to medical vocabulary as it relates to structure, function, physiology, diseases, diagnostics and treatment associated with all body systems. HLT-110 replaces BIO-110 in the Semester system. HLT-110 meets the Ohio Transfer Assurance Guide standards for course OHL020 and the Ohio Career-Technical Assurance Guide standards for CTMT002.

HLT-115 Human Nutrition HLT-115 Human Nutrition 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: None. Recommend completion of high school chemistry and completion of or concurrent enrollment in a pre-college or college-level composition course. Course is graded A-F. This course is an introduction to the principles of nutrition with emphasis on food composition and the functions of nutrients. This course includes digestion, absorption, and metabolism of nutrients, food safety and nutritional needs during the life cycle. HLT-115 replaces BIO-115. HLT-115 meets the Ohio Transfer Assurance Guide standards for course OHL016.

HLT-120 Electrophysiology "HLT-120 Electrophysiology 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course will introduce electrocardiography (ECG). The student will learn concepts related to cardiac monitoring and assessment. Topics will include anatomy and physiology of the heart, mechanics of cardiac monitoring equipment, the cardiac conduction system, and an overview of cardiac rhythm interpretation as well as the recognition of common abnormalities. The student will have the opportunity to practice techniques in a classroom setting under direct supervision."

HLT-125 The Medically Complex Child HLT-125 The Medically Complex Child 2.50 credit hours, 2.50 contact hours (2.50 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course is designed for anyone who may be providing care for the medically complex child. The course includes a brief overview of child development, including anatomy & function as well as psychosocial development. The course then explores key examples of congenital or acquired conditions that contribute to medical complexity for these children. Consideration is given particularly to basic care and comfort, safety, and management of care. This course is appropriate as a review for licensed professionals as well as for unlicensed caregivers who are involved in the care of medically complex children, for example in the home care environment.

HLT-130 Pharmacology for the Consumer HLT-130 Pharmacology for the Consumer 1 credit hour, 1 contact hour (1 hour lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course is typically offered as a term course. This course is intended for the student who is interested in learning about safe medication practices. The course is designed to provide general information that may be helpful to the consumer who is taking medication, the person who is a personal caregiver to a family member who takes medications, or the person who is employed in an entry level caregiver position such as the home health aide. The course is not intended to certify anyone to administer medications in a regulated setting, but is intended to build general knowledge about medication use in current society and medication safety.

HLT-140 Phlebotomy HLT-140 Phlebotomy 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Concurrent enrollment in HLT-145 and HLT-150. Course is graded A-F. This course introduces the student to the profession of phlebotomy in laboratory medicine. This includes: organization structure of hospitals and laboratories, medical ethics, related medical terminology, quality assurance, laboratory safety, and knowledge of the basic routine laboratory tests. This course serves as partial fulfillment for the certification requirement of the American Society for Clinical Pathology (ASCP).

HLT-145 Phlebotomy Lab HLT-145 Phlebotomy Lab 1 credit hour, 2 contact hours (0 hours lecture and 2 hours lab). Prerequisite: Concurrent enrollment in HLT-140 and HLT-150. Course is graded S/U. This course provides the phlebotomy student the opportunity to practice and apply

phlebotomy skills in the laboratory environment. This course serves as partial fulfillment for the certification requirement of the American society for Clinical Pathology (ASCP). This course is graded on a Satisfactory/ Unsatisfactory basis.

HLT-150 Phlebotomy Clinical Practicum HLT-150 Phlebotomy Clinical Practicum 2 credit hours, 8 contact hours (0 hours lecture, 0 hours lab and 8 hours clinical). Prerequisite: Concurrent enrollment in HLT-140 and HLT-145. Course is graded S/U. This course provides the phlebotomy student the opportunity to practice and apply phlebotomy skills in the clinical environment. This course serves as partial fulfillment for the certification requirement of the American society for Clinical Pathology (ASCP). This course is graded on a Satisfactory/ Unsatisfactory basis.

HLT-200 Advanced Cardiac Life Support HLT-200 Advanced Cardiac Life Support 1 credit hour, 1.50 contact hours (0.50 hours lecture and 1 hour lab). Prerequisite: Students must be a healthcare provider with current Basic Life Support (BLS) Healthcare Provider certification who participate in the treatment of cardiopulmonary arrest or other cardiovascular emergencies. Students must be able to successfully demonstrate competency in adult cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) use and bag-mask ventilation. Course is graded S/U. This course in Advanced Cardiac Life support (ACLS for Healthcare Providers) includes evidence-based information regarding recognizing and intervening in cardiac arrest, immediate post-cardiac arrest, acute arrhythmia, stroke and acute coronary syndromes (ACS) situation. Students will receive instruction regarding basic cardiac rhythm recognition, obtaining vascular access and the placement of alternative advanced airway devices. This course is designed to give students the opportunity to practice and demonstrate proficiency in resuscitation skills. This course is typically offered as a flex course and is graded on a Satisfactory/ Unsatisfactory basis.

HLT-210 Pathophysiology of Human Diseases HLT-210 Pathophysiology of Human Diseases 4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in BIO-131. Recommend completion of or concurrent enrollment in a pre-college or college level composition course. Course is graded A-F. This course investigates the imbalances caused by disease, examines signs and symptoms of disease, explores various tests used to detect disease and analyzes treatment options necessary to maintain homeostasis. HLT-210 replaces BIO-210 in the Semester system. in the Quarter System. Both HLT-210 meet the Ohio Transfer Assurance Guide standards for course OHL019.

HSV-100 Principles of Social Work HSV-100 Principles of Social Work 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. In this course the student will become acquainted with the field of human services, social work and related professions, including history and development, legal and ethical issues, and various settings in which services are provided. The roles and functions of the skilled helper in the field of human services will also be examined. HSV-100 meets the Ohio Transfer Assurance Guide standards for course OSS029.

HSV-110 Chemical Dependency I HSV-110 Chemical Dependency I 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course explores chemical dependency issues from a historical, cultural and legal perspective. Current theories of addiction are presented, as well as physiological effects and categorization of numerous addictive substances. An overview of treatment and prevention will also be included.

HSV-121 Direct Practice Skills HSV - 120 Direct Practice Skills 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. This course provides the student with interpersonal and interviewing skills used in direct practice in the human services field. Emphasis is placed on skills relevant to diverse populations and a multicultural society. Techniques will be practiced through video recorded role-playing. HSV-121 replaces HSV-120 Direct Practice Skills I.

HSV-131 Case Management in Human Services HSV-131 Case Management in Human Services 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course provides the student with an overview of the Human Services profession, including basic knowledge and beginning skills in case management. Topics introduced include history, ethical standards, diversity and the role of case management in human services. This includes specific skills such as assessment, data collection, documentation, identification and referral to appropriate services, crisis intervention and discharge, with specific attention given to the range of populations served and needs addressed by the human services profession. HSV-131 replaces HSV-130 Case Management in Human Services.

HSV-141 Therapeutic Group Practice Skills HSV-141 Therapeutic Group Practice Skills 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. This course presents the basic principles of therapeutic group dynamics utilized in the field of human services. The student is provided with an experiential awareness of group dynamics and practice of interpersonal skills through participation as a group member in the laboratory setting. The student will also practice group leadership skills in this group laboratory setting. HSV-141 replaces HSV-140 Group Dynamics.

HSV-150 Social Welfare & Policy HSV-150 Social Welfare and Policy 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course examines the programs and policies of the social welfare system in the United States. Historical development as well as current policies and trends will be analyzed. Both HSV-150 meets the Ohio Transfer Assurance Guide standards for course OSS030.

HSV-200 Family Systems HSV-200 Family Systems 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: none. Course is graded A-F. This course studies the multi-cultural evolution of the family based on a generalist perspective. A variety of diverse family systems will be examined while considering social, political and economic forces in society. An over view of family relations throughout the life span as well as comparing characteristics of healthy and conflicted family systems will be included. Family system interventions will be introduced. HSV-200 meets the Ohio Transfer Assurance Guide standards for course OSS023.

HSV-210 Mental Health and Wellness HSV-210 Mental Health and Wellness 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course studies the interventions aimed at helping those with mental illness and promoting wellness. Integration of research and treatment models that consider mental health well-being as connected to wellness psychologically and physically are examined. The meaning of wellness, health, and illness across the lines of identity, ethnicity, culture, gender, and age are explored. Recognizing mental health crisis, intervention strategies and skills are developed. Pathological outcomes (e.g., depression, anxiety, and psychosis) are studied in tandem with such constructs as; resilience, hope, wisdom, and spirituality, and considered at the individual, interpersonal, and community level.

HSV-230 Social Problems HSV-230 Social Problems 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in SOC-100. Course is graded A-F. In this course, a variety of selected social problems in contemporary society are studied. Special emphasis is given to the analysis of the problems and evaluation of potential solutions. Social problems to be covered will include both micro-level and macro-level social issues. HSV-230 meets the Ohio Transfer Module standards for course TMSBS and also meet the Ohio Transfer Assurance Guide standards for course OSS025.

HSV-240 Social Services for Aging Populations HSV-240 Social Services for an Aging Population 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course is designed to provide the student with the specialized knowledge base to understand and support the care needs of older adults and their families in a variety of environments with a special emphasis on those individuals residing in the community. Current social policies, provider and service programs are reviewed and discussed throughout the curriculum. Social service processes and tools are specifically reviewed in conjunction with the provision of care.

HSV-250 Chemical Dependency II HSV-250 Chemical Dependency II 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in HSV-110. Course is graded A-F. This course covers the theory and practices related to chemical dependency treatment. Current strategies and community resources useful in preventing chemical dependence and/or relapse are reviewed and discussed throughout the curriculum. The student will explore treatment issues related to working with diverse populations in conjunction with tools to prepare the human services worker. HSV-250 replaces HUMSVS-250 Chemical Dependency II in the Semester system. There is no Quarter system course equivalent for HSV-250 or HUMSVS-250.

HSV-280 Capstone:application Humanservices Ethic HSV-280 Capstone: Application of Human Services Ethics 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in HSV-285. Course is graded A-F. This course expands on the previous human services learning through case scenarios analyzing ethical practice related issues and critical thinking skills. Students build ethical-decision making skills by use of a step-by-step decision making model. Concepts in human services ethical choices, value development, ethics and professional guidelines are explored. The course builds upon all previous courses in the curriculum and practicum experience by utilizing a multi-system case scenario method that prepares the student for human services practice. HSV-280 replaces HSV-235 Capstone: Human Services Generalist.

HSV-285 Human Services Practicum I HSV-285 Human Services Practicum I 3 credit hours, 12 contact hours (2 hours lecture, 0 hours lab, and 10 hours practicum experience per week). Prerequisite: Enrollment in the Human Services Program; completion of a minimum 24 semester hours from the Plan of Study; C grade (2.00) or better in the following: HSV-100, HSV-110, HSV-120, HSV-130, HSV-140, ENGL-112, and ENGL-113. The student must meet with the Program Director or Practicum Coordinator NO LATER THAN THE FOURTH WEEK OF THE SEMESTER PRIOR to this course. Course is graded A-F. This course is designed to provide 140 clock hours of practical experience in the field of human services. The student will be placed in a human service agency where he/she will learn agency policies and procedures, observe professionals at work, and practice his/her own human service skills. Supervision will be provided by a qualified professional and an appropriate college representative. Classroom instruction will focus on discussion of experiences encountered in the practicum setting.

HSV-286 Human Services Practicum II HSV-286 Human Services Practicum II 3 credit hours, 12 contact hours (2 hours lecture, 0 hours lab, and 10 hours practicum experience per week). Prerequisite: Enrollment in the Human Services Program; permission of the Program Director or the Practicum Coordinator, C grade (2.00) or better in HSV-285. The student must meet with the Program Director or Practicum Coordinator NO LATER THAN THE FOURTH WEEK OF THE SEMESTER PRIOR TO TAKING THIS COURSE. Course is graded A-F. This course is designed as a continuation of practical experience and provides an additional 140 clock hours in a human service agency. The student will increase his/her level of responsibility while implementing human service skills. Supervision will be provided by a qualified professional and an appropriate college representative. Classroom instruction will focus on discussion of experiences encountered in the practicum setting.

LET-100 Introduction to Criminal Justice LET-100 Introduction to Criminal Justice 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. During this introductory course the student will examine the Criminal Justice System, including the role of the Police, the Courts, and the Correctional system. An analysis of the agencies involved and the process of administration of criminal justice is also discussed. LET-100 meets the Ohio Transfer Assurance Guide standards for course OSS031. LET-100 meets the Ohio Career-Technical Assurance Guide standards for CTCJ001.

LET-105 Ethics in Criminal Justice LET-105 Ethics in Criminal Justice 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course is designed to offer the student a thematic perspective for making ethical decisions in criminal justice. The student will be introduced to the fundamentals of ethical theory, doctrines, and controversies, and the rules of moral judgment. The student will examine ethical principles common to all components of the discipline, such as wisdom, goodness, morality, and justice, as well as the common vices of deception, racial prejudice, and egotism. This course will also explore area-specific perspectives that will address the state of ethics in policing, corrections, probation and parole. LET-105 Ethics in Criminal Justice replaces LET-5117 Ethics in Criminal Justice in the Quarter system.

LET-107 Basic Handgun LET-107 Basic Handgun 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: Successful passing of state background check prior to commencement of course. Course is graded A-F. The student will learn the fundamentals of weapon craft with both semi-auto and revolver handguns. Students will focus upon defensive hand gunning for public safety professionals and Ohio CCW License carriers.

LET-110 Constitutional Law and Courts LET-110 Constitutional Law and Courts 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in LET-100 or permission of the Program Director. Course is graded A-F. This course will focus on the study of the court systems in the United States and the study of the U.S. Constitution. Topics will include the Bill of Rights and court cases that are affected by the Bill of Rights. The student will study cases related to the First, Fourth, Fifth, Sixth, Eighth, and Fourteenth Amendments.

LET-115 Public Administration LET-115 Public Administration 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course will examine all aspects of the criminal justice system from an organizational perspective. Agencies and organizations will be portrayed within a general open-systems context in which community, state, and national inputs can be assessed with respect to their impact on individual agencies.

LET-116 Public Administration LET-116 Public Administration 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course will examine all aspects of the criminal justice system from an organizational perspective. Agencies and organizations will be portrayed within a general open-systems context in which community, state, and national inputs can be assessed with respect to their impact on individual agencies. LET-116 Public Administration replaces LET-115.

LET-120 Criminal Law and Procedure LET-120 Criminal Law and Procedure 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in LET-100 or permission of the Program Director. Course is graded A-F. The student will learn the about Ohio Revised Code. The student will study the criminal code, pre-trial, trial, and post-trial procedures used in the law. The student will be able to recognize violations of the law, the appropriate statutes pertaining to these violations, and apply the procedures in scenarios and written work.

LET-126 Basic Investigations LET-126 Basic Investigations 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. The emphasis of this course will deal with basic investigative techniques and procedures. The student will learn the fundamentals of obtaining evidence from witnesses and crime scene searches. The student will establish corpus delecti and how to prepare the necessary reports associated with the crime scene. LET-126 replaces LET-125 Basic Investigations.

LET-130 Victimology LET-130 Victimology 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. The student will look at the growing concern for the plight of crime victims and the exploration of the victimization experience. This course will cover the losses that burden victims of business and various kinds of street crime.

LET-161 Wellness I LET-161 Wellness I 1.50 credit hours, 4 contact hours (0 hours lecture and 4 hours lab). Prerequisite: None. Course is graded A-F. This course will enhance the student's learning in the area of wellness, and specifically in the areas of fitness required for law enforcement occupations. Life- long learning approaches to physical, spiritual, and psychological wellness will be facilitated. Diet and components of health-related fitness including cardiovascular function, body composition, muscular strength, muscular endurance, and flexibility will be addressed. LET-161 replaces LET-160 Wellness I.

LET-166 Wellness II LET-166 Wellness II 1.50 credit hours, 4 contact hours (0 hours lecture and 4 hours lab). Prerequisite: C grade (2.00) or better in LET-161. Course is graded A-F. This course will enhance the student's learning in the area of wellness, and specifically in the topics of strength and aerobics required for law enforcement occupations. Endurance strength versus explosive maximum strength will be addressed. An introduction to running covering topics of natural gate and pace will be covered. Jogging versus sprinting will also be covered. LET-166 replaces LET-165 Wellness II.

LET-200 Introduction to Corrections LET-200 Introduction to Corrections 4 credit hours, 4 contact hours (4 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in LET-100, or permission of the Program Director. Course is graded A-F. This is an introductory course of instruction where the student examines the adult and juvenile corrections systems in America to include history, philosophies, and the future. Areas of community based corrections, women in prison, and special

needs populations will also be addressed. LET-200 is a New Course in the Semester system. LET-200 meets the Ohio Transfer Assurance Guide standards for course OSS033.

LET-205 Drugs in the CJ System LET-205 Drugs in the Criminal Justice System 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in LET-100 or permission of Program Director. Course is graded A-F. This course will provide the student with an understanding of the impact of drugs within the Criminal Justice System. Drug abuse, in various forms, will be discussed and how the professional within the Criminal Justice System may become involved with intervention and prevention. The impact of drugs will be examined at from the perspective of law enforcement and its role in prevention and enforcement, the courts and sentencing offenders, and corrections in housing and treating offenders.

LET-210 Criminology LET-210 Criminology 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in LET-100 and ENGL-112, or permission of Program Director. Course is graded A-F. This course involves the study of crime and criminal behavior. The student will study, the nature and causes of crime and the theories dealing with criminal behavior and delinquency. LET-210 meets the Ohio Transfer Assurance Guide standards for course OSS034.

LET-215 Human Diversity LET-215 Human Diversity 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Co-requisite of LET-100. Course is graded A-F. A course focusing on the differences and similarities among racial, ethnic and other diverse populations in the United States. The course includes historical, religious and socio-cultural issues and current conflicts.

LET-221 Juvenile Process LET-221 Juvenile Process 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course will enhance the student in learning the differences between the juvenile system and the adult court system. Juvenile criminal behavior will be discussed as it relates to the theories of criminal behavior. This course will focus on these theories of criminal behavior, the classification, laws that pertain to juvenile offenders, the court process, and the types of juvenile institutions and diversion programs. LET-221 replaces LET-220 Juvenile Process.

LET-225 Probation and Parole LET-225 Probation and Parole 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in LET-100 or permission of Program Director. Course is graded A-F. This advanced correctional course explores a uniquely American system of criminal justice, probation and parole. This course is intended to provide the student with an understanding of the development, theories, and practices currently utilized in response to social and criminal justice system pressure. The student will learn how the various operational components of probation and parole operate on federal, state and local platforms. Intermediate sanctions will also be explored as part of this course.

LET-230 Introduction to Homeland Security LET-230 Introduction to Homeland Security 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in LET-100 or permission of Program Director. Course is graded A-F. This is a course of instruction for the criminal justice student that clearly identifies the police response to domestic terrorism regarding the concepts of prevention, preparedness, response, and recovery.

LET-236 Wellness IV LET-236 Wellness IV 1 credit hour, 1.5 contact hours (0 hours lecture and 1.5 hours lab). Prerequisite: Admittance into the COTC Police Academy Program. Course is graded A-F. The student will participate in a physical conditioning program that will increase their strength, physical endurance, and tone the muscle groups of the body as required by the Ohio Peace Officer Training Commission. The student will also learn good nutrition habits. LET-236 replaces LET-291 and LET-262 Physical Conditioning II.

LET-237 Subject Control "LET-263 Subject Control 2 credit hours, 6 contact hours (0 hours lecture and 6 hours lab). Prerequisite: Admitted to the COTC Police Academy Program. Course is graded A-F. The student will learn and practice the basic skills for survival. Subject areas include self-defense, both with and without the use of defensive equipment. LET-237 replaces LET-263 and LET-259 Subject Control."

LET-238 Patrol LET-238 Patrol 4.5 credit hours, 8.5 contact hours (1.5 hours lecture and 7.0 hours lab). Prerequisite: Admittance into the COTC Police Academy Program. Course is graded A-F. This course is designed to familiarize the student with the police patrol function. The subjects that are covered provide the basic knowledge to enable the student to safely conduct the required tasks of patrol duties. Areas of instruction include patrol and its related functions, traffic stop safety, civil disorders, prisoner booking, report writing, and homeland security issues, patrol rifle and less than lethal force options. LET-238 replaces LET-292; and LET-238; and LET-283; and LET-280.

LET-244 Human Relations LET-244 Human Relations 3 credit hours, 5 contact hours (2 hour lecture and 3 hours lab). Prerequisite: Admittance into the COTC Police Academy Program. Course is graded A-F. The student will learn the techniques in responding to situations regarding people with specific problems. This area of study also includes communications with the public and media, handling of special needs populations, domestic violence, crisis intervention, and child abuse and neglect. LET-244 replaces LET-274; and LET-277; and LET-252. Human Relations.

LET-248 Criminal Law LET-248 Criminal Law 4.50 credit hours, 7.50 contact hours (2.00 hours lecture and 5.50 hours lab). Prerequisite: Admittance into the COTC Police Academy Program. Course graded A-F. The student will develop an understanding of the Ohio Revised Code. The criminal code will be studied as it relates to criminal justice substantive and procedural law. The student will apply appropriate statutes to violations through scenarios created by the faculty. The student will learn when they may arrest with or without a warrant, search with or without a warrant, apply knowledge of the law when conducting an interrogation, understand liability issues with the use of force, and demonstrate how to testify in court. LET-248 replaces LET-246 Criminal Law; and LET-295; and LET-246; and LET-278; and LET-251.

LET-249 Administration LET-249 Administration 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: Admittance into the COTC Police Academy Program. Course is graded A-F. The students will learn the basics regarding the role of the American Peace Officer, the structure of the criminal justice system and methods of dealing with the citizens they serve, both ethically and professionally. This course defines Community Policing and establishes guidelines for developing community policing programs. LET-249 replaces LET-245 Administration; and LET-269; and LET-250; and LET-245.

LET-263 Subject Control "LET-263 Subject Control 2 credit hours, 5 contact hours (0.50 hours lecture and 4.50 hours lab). Prerequisite: Admitted to the COTC Police Academy Program. Course is graded A-F. The student will learn and practice the basic skills for survival. Subject areas include self-defense, both with and without the use of defensive equipment. LET-263 replaces LET-259 Subject Control."

LET-264 Wellness III LET-264 Wellness III 1 credit hour, 3 contact hours (0 hours lecture and 3 hours lab). Prerequisite: Admittance into the COTC Police Academy Program. Course is graded A-F. The student will participate in a physical conditioning program that will increase their strength, physical endurance, and tone the muscle groups of the body as required by the Ohio Peace Officer Training Commission. The student will also learn good nutrition habits. LET-264 replaces LET-261 Physical Conditioning I.

LET-282 Investigations LET-282 Investigations 2 credit hours, 4 contact hours (1 hour lecture and 3 hours lab). Prerequisite: Admittance into the COTC Police Academy Program. Course is graded A-F. The emphasis of this course will deal with basic investigative techniques and procedures. The student will study the fundamentals of obtaining evidence from crime scene searches and from witnesses. During mock crime scenes the student will establish corpus delecti and prepare the necessary reports, crime scene sketches and photography. LET-282 replaces LET-279; and LET-256 Investigations.

LET-284 Homeland Security LET-284 Homeland Security 1 credit hour, 2 contact hours (0 hours lecture and 2 hour lab). Prerequisite: Admittance to the COTC Police Academy Program. Course is graded A-F. This course is designed to familiarize the student with homeland security. The subjects that are covered provide the basic knowledge to enable the student to become familiar with various aspects of homeland security.

LET-286 Criminal Justice Practicum LET-286 Criminal Justice Practicum 2 credit hours, 8 contact hours (1 hour lecture, 0 hours lab and 7 hours per week in a practicum experience). Prerequisite: Student must be enrolled in second year of Criminal Justice Technology program or approval of the Program Director. Course is graded S/U. This course provides valuable experience and insight into practical operations of a public service related agency through work assignments. A seminar (discussion time) is included in this course to discuss the student's experiences. This course is graded on a Satisfactory/ Unsatisfactory basis. LET-286 replaces LET-285 Criminal Justice Practicum.

LET-291 Wellness IV LET-291 Wellness IV 1 credit hour, 3 contact hours (0 hours lecture and 3 hours lab). Prerequisite: Admittance into the COTC Police Academy Program. Course is graded A-F. The student will participate in a physical conditioning program that will increase their strength, physical endurance, and tone the muscle groups of the body as required by the Ohio Peace Officer Training Commission. The student will also learn good nutrition habits. LET-291 replaces LET-262 Physical Conditioning II.

LET-292 Patrol LET-292 Patrol 4 credit hours, 8 contact hours (2 hours lecture and 6 hours lab). Prerequisite: Admittance into the COTC Police Academy Program. Course is graded A-F. This course is designed to familiarize the student with the police patrol function. The subjects that are covered provide the basic knowledge to enable the student to safely conduct the required tasks of patrol duties. Areas of instruction include patrol and its related functions, traffic stop safety, civil disorders, prisoner

booking, report writing, and homeland security issues, patrol rifle and less than lethal force options. LET-292 replaces LET-283 Patrol. Both LET-292 and LET-283 replace LET-280 Patrol in the Semester system. LET-292, LET-283 and LET-280 replace LET-254 in the Semester system. LET-292, LET-283, LET-280 and LET-254 Patrol replace LET-5015 BPA-Patrol in the Quarter system.

LET-293 Firearms LET-293 Firearms 2 credit hours, 5 contact hours (0 hours lecture and 5 hours lab). Prerequisite: Admittance into the COTC Police Academy Program. Course is graded A-F. The student will learn the fundamentals of weapon craft with both handguns and shotguns. The student will fire handguns and shotguns. The student will fire assorted shotgun ammo as used by police agencies. LET-293 replaces LET-257 Firearms in the Semester system. Both LET-293 and LET-257 replace LET-5022 BPA-Firearms in the Quarter system.

LET-294 Advanced Patrol Tactics LET-294 Advanced Patrol Tactics 3.00 credit hours, 7.50 contact hours (0.50 hours lecture and 7.00 hours lab). Prerequisite: Successful completion of 3 semesters of the Law Enforcement Technology Plan of Study and OPOTA certificate eligible or possesses current OPOTA Peace Officer certificate. Course is graded A-F. This course will introduce the police academy graduate to a change in paradigm in responding to violent crimes in progress and introduce instinctive shooting technique. The student will be introduced to the tactical application of patrol rifle and includes certification offensive unarmed applications, and the introduction of the defensive and offensive applications of edged weaponry. Learners will grasp this material through the utilization of structural simulation and experiential learning application. Multiple certificates will be awarded pending the passing of all subject matter areas. LET-294 replaces LET-288 Advanced Patrol Tactics in the Semester system. Both LET-294 andLET-288 replace LET-268 Advanced Patrol Tactics in the Semester system. LET-294, LET-2888 and LET-268 replace LET-5147 Advanced Patrol Tactics in the Quarter system.

LET-296 Traffic LET-296 Traffic 3.50 credit hours, 8.00 contact hours (1 hour lecture and 7 hours lab). Prerequisite: Admittance into the COTC Police Academy Program. Course is graded A-F. The student will study the traffic enforcement responsibilities of peace officers and the purpose for traffic enforcement. This course includes the study of traffic laws, accident investigation, alcohol detection and apprehension, and enforcement with speed measuring devices. LET-296 replaces LET-281 Traffic in the Semester system. Both LET-296 and LET-281 replace LET-255 in the Semester system. LET-296, LET-281 and LET-255 all replace LET-5025 BPA-Traffic Enforcement in the Quarter system.

LET-298 First Aid LET-298 First Aid 0.50 credit hours, 1.50 contact hours (0 hours lecture and 1.50 hours lab). Prerequisite: Admittance into the COTC Police Academy Program. Course is graded A-F. This course is designed to teach the student basic first aid and life-saving skills. LET-298 replaces LET-260 First Aid in the Semester system. Both LET-298 and LET-260 replace LET-5020 First Aid in the Quarter system.

LET-299 Driving LET-299 Driving 1.5 credit hours, 3 contact hours (0.50 hours lecture and 2.50 hours lab). Prerequisite: Admittance into the COTC Police Academy Program. Course is graded A-F. The student will learn defensive and pursuit driving techniques as well as safety issues and laws regarding the use of police vehicles. Students will operate vehicles in driving events proscribed by the Ohio Peace Officer Training Commission. LET-297 replaces LET-258 Driving.

MANF-100 Principles of Machining MANF-100 Principles of Machining 2 credit hours, 3 contact hours (1 hours lecture and 2 hours lab). Prerequisite: None. Course is graded A-F. This course covers

changes in machining technologies, major advancements in the machine tool field or specialty training items. The course will also offer practice in basic bench work, setup and layout for lathe and milling operations and precision measuring instruments. Other activities will include finding solutions of related problems, preparation of weekly laboratory reports and a variety of maintenance tasks necessary for the upkeep and operation of a machine shop. This course will typically be offered on the COTC Knox Campus. MANF-100 replaces AMT-100 Principles of Machining.

MANF-105 Materials in Manufacturing and Metrology MANF-105 Materials in Manufacturing and Metrology 2 credit hours, 3 contact hours (1 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in (MATH-150). Course is graded A-F. This course introduces materials in manufacturing and the care and use of precision measuring instruments and measuring techniques. Emphasis is placed on the inspection of machine parts and use of a wide variety of measuring instruments. The course consists of a theoretical and practical study incorporating the metric system, geometric dimensioning/ tolerancing, and more. This course also covers the production, properties, testing, classification, microstructure, and heat treating effects of ferrous and non-ferrous materials. Topics include iron-carbon phase diagram, ITT diagram, ANSI code quenching, and tempering. MANF-105 replaces AMT-101 Metrology.

MANF-106 Automation in Manufacturing MANF-106 Automation in Manufacturing 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in MATH-150. Course is graded A-F. Concepts, principles, and relationships of automated assembly devices, computer-aided design (CAD), computer-aided manufacturing (CAM), industrial robots, numerical control (NC), industrial lasers, programmable logic controllers (PLCs), automated guided vehicles (AGVs), flexible manufacturing systems (FMS), and computer-integrated manufacturing (CIM). This course will typically be offered on the COTC Newark Campus.

MANF-122 Machining Turning MANF-122 Machining-Turning and Milling 4 credit hours, 8 contact hours (2 hours lecture and 6 hours lab). Prerequisite: C (2.00) grade or better in MANF-100. Course is graded A-F. This course covers basic and advanced terminology, setup, operation, and daily care of conventional milling machines and lathes. Theory and practical skill development exercises will focus on the use of milling machines and attachments, as well as cutting tool preparations for completing external surface machining such as straight turning, threading, chucking and tailstock operations, and surface piece-part machining operations. Accident prevention practices and procedures will be stressed throughout the course. Concepts and mathematical calculations for part geometry determination, specific lathe (machining) requirements, and the use of digital readout units will be covered. Carbide/ ceramic/diamond cutting tool material, insert, and tool holder identification and selection requirements for lathe work will be explained in detail. Process planning and Geometric Dimensioning and Tolerancing (GD&T) characteristics appropriate for lathe machining and milling work will also be addressed. MANF-122 replaces AMT-122 Machining-Turning and AMT-123 Machining-Milling.

MANF-203 Statistical Process Control MANF-203 Statistical Process Control 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in Math-080 or appropriate placement per COTC Assessment and Placement policy. Course is graded A-F. Quality control is one of four major functions of the production activity within the manufacturing environment. The concern for quality production has led to a "building it right the first time" philosophy of

manufacturing. Developing a product that meets quality standards now requires several activities: 1) designing for quality; 2) implementing quality processes; and 3) manufacturing for quality. This course will present an overview of the quality management system in today's manufacturing environment. The student will study the basic statistical methods and applications of Statistical Process Control within the production function of manufacturing. MANF-203 replaces AMT-203 Statistical Process Control.

MANF-204 CNC Graphic Programming MANF-204 CNC Graphic Programming 3 credit hours, 5 contact hours (1 hour lecture and 4 hours lab). Prerequisite: C grade (2.00) or better in ARCH-110 and MANF-222. Course is graded A-F. This course covers computer numerical controlled (CNC) programming utilizing CAD/CAM with concepts for turning and milling center applications. G and M code programming including fixture offsets, thread milling, looping, macro, and sub program development/utilization/ execution will be included. Criteria relevant to accident prevention practices and procedures, process planning, machine and tool selection, operational sequence, speed, feed, and cutting depth, program proof-out and quality control for a multi-axis CNC program tooling will also be addressed. Emphasis is placed on the interaction of menus to develop a shape file in a graphics CAM system and to develop tool path geometry and part geometry and the transfer of machine code from CAM Graphics to the CNC turning or milling center. The course will also offer practice for job planning using CAM software, including machine selection, tool selection, operational sequence, speed, feed, and cutting depth for a multi-axis CNC program. MANF-204 CNC Graphic Programming replaces AMT-204 CNC Graphic Programming.

MANF-222 CNC Turning MANF-222 CNC-Turning and Milling 4 credit hours, 8 contact hours (2 hours lecture and 6 hours lab). Prerequisite: C (2.00) grade or better in MANF-122. Course is graded A-F. This course covers the manual programming, setup, and safe operation of computer numerical controlled (CNC) milling machines and turning centers. Topics include machine safety, programming formats, control functions, program loading, program editing, machine setup, part production, process control, and practical application and inspection. Emphasis is placed on programming and production of complex parts with CNC milling machines and lathes. MANF-222 replaces AMT-222 CNC Turning and AMT-223 CNC Milling.

MANF-271 Lean Manufacturing MANF-271 Lean Manufacturing 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. Lean manufacturing is one of the mainstays of successful, modern manufacturing and production. This course provides a historic perspective of manufacturing and the roots of lean manufacturing principles, both domestically and internationally. Lean manufacturing's major concepts, including Value Stream Mapping, the Seven Wastes, Continuous Improvement and People Involvement are discussed. Lean manufacturing's major tools, including 5S and Visual Management, Set-up Reduction and Single Minute Exchange Device (SMED), Batch size Reduction and One-Piece-Flow, Standardized work, Work Balancing (TAKT-time), Production leveling/smoothing, Cellular Manufacturing, and Kanban are discussed. Significant time is dedicated to Kaizen. MANF-271 replaces MANF-270 Lean Manufacturing.

MATH-013 Co-Requisite Statistics MATH-013 Co-Requisite Statistics 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: Appropriate placement per COTC Assessment and Placement Policy. Concurrent enrollment in MATH-130C. This course will count neither for elective credit nor toward meeting minimum credit hours for graduation. Course is graded A-F. This course is designed to provide "Just in time remediation" and run concurrently with MATH-130C Elementary

Statistics. This course will count neither for elective credit nor toward meeting minimum credit hours for graduation.

MATH-040 Basic Mathematics MATH-040 Basic Mathematics 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: None. Course is required for all students scoring below the minimum level on the appropriate placement per COTC Assessment and Placement policy; this course will count neither for elective credit nor toward meeting minimum credit hours for graduation. Course is graded A-F. Basic Mathematics is designed to develop the student's potential to succeed in other college mathematics courses. Basic arithmetic skills involving whole number, fractions and decimals are reviewed and applied. Also covered are U.S. and Metric measures, dimensional analysis, basic geometric concepts and the use of formulas. This course will count neither for elective credit nor toward meeting minimum credit hours for graduation. MATH-040 replaces MTH-1200 Basic Mathematics in the Quarter System. MATH-040 is a pre-college course. Credit for this course will count neither for elective credit nor toward meeting minimum credit hours for graduation.

MATH-080 Foundations of College Mathematics MATH-080 Foundations of College Mathematics 4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in MATH-040 or appropriate placement per COTC Assessment and Placement policy. This course will count neither for elective credit nor meeting minimum credit hours for graduation. Course is graded A-F. Foundations of College Mathematics is a non-traditional approach to selected topics from elementary and intermediate algebra. It is designed to develop the student's potential to succeed in college-level mathematics courses, including college algebra, statistics and pre-calculus. It includes real number operations, a study of polynomial and rational expressions as well as the solving of linear, quadratic, radical and rational equations. Function notation and beginning data analysis are also introduced. Graphing calculators, as well as other technologies are used extensively to study these topics.

MATH-110 Trigonometry MATH-110 Trigonometry 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in MATH-080 or appropriate placement per COTC Assessment and Placement policy. Course is graded A-F. This course will cover concepts of trigonometry including the graphing of trigonometric functions. Radicals, exponential functions, and logarithms are discussed. MATH-110 meets the Ohio Transfer Module standards for course TMM003

MATH-123 Quantitative Reasoning MATH-123 Quantitative Reasoning 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Appropriate placement per COTC Assessment and Placement policy. Course is graded A-F. Quantitative Reasoning is a context-driven course where mathematical concepts are taught in order to support applications. There are 3 mathematical ideas used in this course to solve real-world problems: numeracy, statistics, and modeling. This active learning course goes beyond the computation of mathematics and requires the student to draw conclusions and present them in a variety of ways, including graphically, orally, and in writing. MATH-123 meets the Ohio Transfer Module standards for course TMM011.

MATH-130 Introduction to Statistics MATH-130 Introduction to Statistics 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Placement into college-level mathematics or concurrent enrollment in MATH-013 co-requisite or successful completion of MATH-013 co-requisite with a C (2.00) or better. Course is graded A-F. This is a non-calculus, introductory course in descriptive and inferential statistics. Concepts are explained intuitively and supported by examples. The applications are general in nature, and the exercises include problems from agriculture, biology,

business, economics, education, environmental studies, psychology, engineering, medicine, sociology and computer science. MATH-130 meets the Ohio Transfer Module standards for course TMM010.

MATH-130C Introduction to Statistics MATH-130C Introduction to Statistics 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Co-requisite: Concurrent enrollment in MATH-013. Course is graded A-F. This is a non-calculus, introductory course in descriptive and inferential statistics. Concepts are explained intuitively and supported by examples. The applications are general in nature, and the exercises include problems from agriculture, biology, business, economics, education, environmental studies, psychology, engineering, medicine, sociology and computer science. MATH-130C is equivalent to MATH-130 Introdction to Statistics. Both MATH-130C and MATH-130 meet the Ohio Transfer Module standards for course TMM010.

MATH-140 College Algebra MATH-140 College Algebra 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in MATH-080 or appropriate placement per COTC Assessment and Placement policy. Course is graded A-F. This course is a study of algebraic functions including polynomial, rational, radical, exponential, logarithmic and piece-wise defined functions. Topics investigated will include domain, range, graphs, inverses, operations, equations, inequalities and their applications. MATH-140 meets the Ohio Transfer Module standards for course TMM001.

MATH-150 Pre-Calculus MATH-150 Pre-Calculus 5 credit hours, 5 contact hours (5 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in MATH-080 or appropriate placement per COTC Assessment and Placement policy. Course is graded A-F. This course is a study of algebraic functions, trigonometry, vectors, conic sections, sequences and series. The course will include the study of polynomial, rational, radical, exponential, logarithmic and piece-wise defined functions, and the trigonometric functions and their graphs. Topics investigated will include domain, range, graphs, inverses, operations, equations, inequalities and their applications. MATH-150 meets the Ohio Transfer Module standards for course TMM002.

MATH-200 Calculus I MATH-200 Calculus I 5 credit hours, 5 contact hours (5 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in MATH-150 or appropriate placement per COTC Assessment and Placement policy. Course is graded A-F. Concepts of limits of functions are covered including continuity of functions. The definition of the derivative as well as rules for differentiation develop the ability to find the derivatives of functions, including polynomial, rational, algebraic, trigonometric, inverse trigonometric, exponential, logarithmic, hyperbolic and inverse hyperbolic functions. Derivatives are used in curve sketching as well as in solving applied problems. The Mean Value Theorem and Newton's Method for optimization are covered. Definite and indefinite integrals, the Fundamental Theorem of Calculus, the substitution method and area between curves are discussed. When completed with MATH-210, MATH-200 meets the Ohio Transfer Module standards for course TMM017; MATH-200 also meets the Ohio Transfer Assurance Guide standards for course TMM005.

MATH-210 Calculus II MATH-210 Calculus II 5 credit hours, 5 contact hours (5 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in MATH-200. Course is graded A-F. The course is a study of integral calculus concentrating on indefinite and definite integrals and their applications in a wide range of functions. When completed with MATH-200, MATH-210 meets the Ohio Transfer Module

standards for course TMM017; MATH-210 also meets the Ohio Transfer Assurance Guide standards for course TMM006.

MCDE-104 Medical CPT Procedure Coding I MCDE-104 Medical CPT Procedure Coding I 4 credit hours, 4 contact hours (4 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better BIO-110, BIO-130, BIO-131,; concurrent enrollment in MCDE-105. Basic computer knowledge and experience is suggested. Course is graded A-F. This course teaches fundamental procedure coding skills for outpatient physician settings and prepares the student to take the AAPC CPC exam for a career in medical coding. It provides the most up-to-date information relating to CPT, HCPCS, and ICD-10 CM coding and assures a broad, encompassing knowledge and expertise in reviewing and selecting the correct procedure and diagnosis codes for physician services. Successful completion of the Medical Coding course sequence indicates that the student is eligible to sit for the AAPC CPC Examination. American Academy of Professional Coders test fees are approximately $370.00, not included in the cost of the course. MCDE-104 replaces MCDE-101 Medical Coding Specialist I.

MCDE-105 Medical ICD-10-CM Diagnosis Coding I MCDE-105 Medical ICD-10-CM Coding I 4 credit hours, 4 contact hours (4 hours lecture and 0 hours lab). Prerequisite: Concurrent enrollment in MCDE-104. Course is graded A-F. This course teaches ICD-10 CM coding skills for outpatient physical settings and prepares the student to take the AAPC CPC exam for a career in medical coding. It provides the most up-to-date information relating to CPT, HCPCS, and ICD-10 coding and assures a broad, encompassing knowledge and expertise in reviewing and assigning the correct procedure and diagnosis codes for physician services. Successful completion of the Medical Coding course sequence indicates that students are eligible to sit for the AAPC CPC Examination. American Academy of Professional Coders test fees are approximately $370.00, which is not included in the cost of the course. MCDE-105 replaces MCDE-102 Medical Coding II in the semester system.

MCDE-106 Medical Cpt Procedure Coding IIMCDE-106 Medical CPT Procedure Coding II 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in MCDE-104 and MCDE-105; concurrent enrollment in MCDE-107. Course is graded A-F. This term course is a continuation of MCDE-104. This course teaches fundamental CPT procedure coding skills for outpatient physician settings and prepares the student to take the AAPC CPC exam for a career in medical coding. It provides the most up-to-date information relating to CPT, HCPCS, and ICD-10 CM coding and assures a broad, encompassing knowledge and expertise in reviewing and selecting the correct procedure and diagnosis codes for physician services. Successful completion of the Medical Coding course sequence indicates that the student is eligible to sit for the AAPC CPC Examination. American Academy of Professional Coders test fees are approximately $370.00, not included in the cost of the course.

MCDE-107 Medical ICD-10-CM Diagnosis Coding II MCDE-107 Medical ICD-10-CM Coding II 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in MCDE-104 and MCDE-105; concurrent enrollment in MCDE-106. Course is graded A-F. This term course is a continuation of MCDE-105. This course continues teaching ICD-10 CM diagnosis coding skills for outpatient physical settings and prepares the student to take the AAPC CPC exam for a career in medical coding. It provides the most up-to-date information relating to CPT, HCPCS, and ICD-10 coding and assures a broad, encompassing knowledge and expertise in reviewing and assigning the correct procedure and diagnosis codes for physician services. Successful completion of the Medical Coding course sequence indicates that students are eligible to sit for the AAPC CPC Examination. American

Academy of Professional Coders test fees are approximately $370.00, which is not included in the cost of the course.

MECH-100 Modeling With Autodesk Inventor MECH-100 3-D Modeling with AutoDesk Inventor 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: None. Course is graded A-F. This course covers the fundamental principles of 3D parametric part design, assembly design, and assembly drawings. The student will learn to create, place, and constrain components and assemblies. The student will also document designs and assemblies and follow drafting standards while dimensioning and annotating drawing views and parts lists. MECH-100 3D is a new Semester course.

MECH-111 Mechanical Systems MECH-111 Mechanical Systems 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in MATH-080 or appropriate placement per COTC Assessment and Placement policy or concurrent enrollment in MATH-080. This course is graded A-F. Mechanical elements of power transmission including gears, levels, chains, belts, and pulleys are introduced and the student will learn basic design rules for these elements. The course also includes analysis of simple power trains and linkage devices, the study of the nature of gear tooth contact, as well as the study of fixtures and bolted joints. Geometric Dimensioning & Tolerancing will be discussed. MECH-111 replaces MECH-110 Mechanical Systems in the Semester system. Both MECH-111 and MECH-110 replace ENGRTCH-110 Mechanical Systems in the Semester system. MECH-111, MECH-110 and ENGRTCH-110 replace EMT-3253 Mechanical Components and Mechanisms in the Quarter system.

MECH-162 Instrumentation & Measurement MECH-162 Instrumentation and Measurement 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. This course presents the measurement of various physical quantities using industrial sensors. Specifications, suitable applications as well as calibration procedures for different types of sensors will be discussed. Process and Instrumentation Drawings (P&ID) are introduced. MECH-162 replaces ENGRTCH-162 Instrumentation and Measurement in the Semester system. Both MECH-162 and ENGRTCH-162 replace EMT-3262 Industrial Instrumentation in the Quarter system.

MECH-200 Alternative & Renewable Energy Sources MECH-200 Alternative and Renewable Energy Sources 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: None. Course is graded A-F. This course provides a comprehensive overview of renewable energies, including solar energy, wind power, hydropower, fuel cells, biomass, and alternative transportation options. Also, the principles of solar home design, solar hot water, pool and space heating, and solar cooling for both new and existing construction are covered. Wind power viability assessments are presented, as well as hydropower or biomass system calculations for a given site. The course presents the impact of government regulations on the use of renewable energies. The course teaches how to analyze renewable energy systems and calculate savings fractions, backup energy needs, financing options, and economic analyses. The course also investigates the potentials of renewable energy technologies to help solve environmental and economic problems within society. Efforts in the laboratory will emphasize solar energies. MECH-200 replaces ENGRTCH-200 Alternative and Renewable Energy Sources in the Semester system. Both MECH-200 and ENGRTCH-200 replace EMT-3201 Alternative and Renewable Energy in the Quarter system.

MECH-202 Thermodynamics MECH-202 Thermodynamics 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: MATH-150 and PHYS-100. Course is graded A-F. The course

is an introduction to thermodynamics; the study of heat and energy transfer as it relates to practical engineering situations. Topics include state equations of a gas and the first and second laws of thermodynamics as they relate to gas compressors, industrial furnaces and other manufacturing processes, as well as automobile and aircraft engines, power generating and refrigeration equipment. MECH-202 a new course in the Semester system.

MECH-203 Dynamics and Control MECH-203 Dynamics and Control 2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: Complete MATH-150 or concurrent enrollment in MATH-150. Complete PHYS-105. Course is graded A-F. This course covers the dynamic systems modelling and control systems analysis and design of(mechanical) dynamic systems. The second law of Newton is studied, and applied to mechanical systems. Laplace transforms is introduced. Models of electric dc motors are studied as well. Time domain and frequency domain modeling is covered. Analysis of feedback systems is also studied using root-locus and Bode plots. Design of Lead-Lag and PID controllers using MATLAB software utility LICSS is discussed. MECH-203 is a new Semester course.

MECH-205 Fluid Mechanics & Fluid Power MECH-205 Fluid Mechanics & Fluid Power 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: Credit for MATH-150 or concurrent enrollment in MATH-150, and Credit for PHYS-105. Course is graded A-F. The course is an introduction to fluid mechanics and fluid power; the study of fluids and the forces on them. The course will cover basic principles of fluid properties, fluid statics, Pascal's law, Bernoulli's and energy equation, and flow measurements. This course also introduces the student to the principles of pneumatics and components found in a typical pneumatic circuit, as well as flow in pipes. Types of pressure, flow, and directional control valves are presented and analyzed. The course provides instruction on selecting and sizing pumps and actuators for specific applications. MECH-205 replaces MECH-230 Hydraulics and Pneumatics in the Semester system. Both MECH-205 and MECH-230 replace ENGRTCH-230 Hydraulics and Pneumatics in the Semester system. MECH-205, MECH-230 and ENGRTCH-230 replace EMT-3243 Hydraulics and Pneumatics in the Quarter system. MECH-205 meets the Ohio Transfer Assurance Guide standards for OET009.

NPN-102 Introduction to Pharmacology NPN-102 Introduction to Pharmacology 2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: Admission into the Nursing Technology, Practical Nursing program and concurrent enrollment in NPN-110. Course is graded A-F. This course introduces the nursing student to the principles of pharmacology and the role of the practical nurse in drug therapy for patients of all ages. Basic pharmacokinetics, drug control laws, selected methods of medication administration, safe dosage calculation, and approved abbreviations will be presented. The laboratory setting (in a concurrent course) is utilized to develop the skills necessary for safe medication administration. This course is typically offered as a term course. NPN-102 Introduction to Pharmacology replaces NPN-4820 Pharmacology I for the PN's in the Quarter system. NPN-102 meets the Career Technical Credit Transfer (C-TAG) standards for course CTPNNUR001.

NPN-110 Fundamentals of Practical Nursing NPN-110 Fundamentals of Practical Nursing 5 credit hours, 9 contact hours (3 hours lecture, 3 hours lab and 3 hours clinical). Prerequisite: Admission to the Practical Nursing One-Year Certificate Program and concurrent enrollment in NPN-102. Course is graded A-F. This course introduces the student to the knowledge, skills, and attitudes needed for safe and effective practice as a practical nurse. Basic focused assessment and nursing care of physiological, psychosocial, spiritual, and cultural needs of patients across the lifespan are examined. The student will

learn fundamental nursing skills appropriate for the practical nurse. These skills are developed in the nursing laboratory and applied to adult patients in the health care setting. NPN-110 Fundamentals of Practical Nursing replaces NPN-103 Fundamentals of Practical Nursing in the semester system. Both NPN-110 and NPN-103 replace NPN-4828 Fundamentals of Nursing-PN's in the Quarter system.

NPN-112 Health Alterations II for PN "NPN-112 Health Alterations II for the Practical Nurse 6.50 credit hours, 10.50 contact hours (4.50 hours lecture, 0 hours lab and 6 hours clinical). Prerequisite: C grade (2.00) or better in NPN-115 and concurrent enrollment in NPN-116 and NPN-117. Course is graded A-F. This course focuses on multisystem, acute and chronic, health alterations within more complex body systems. Basic focused assessment and nursing care skills are refined. Prioritization and delegation skills within the scope of the practical nurse are emphasized. These skills will be practiced in the simulation laboratory. In the clinical setting, the student will have the opportunity to plan and provide care for individual or groups of patients based on the complexity of care. NPN-112 replaces NPN-106 Health Alterations II for the Practical Nurse in the Semester system. Both NPN-112 and NPN-106 replace NPN-4825 Health Alterations II for the PN's in the Quarter system."

NPN-115 Health Alterations I for the Pn NPN-115 Health Alterations I for the Practical Nurse 6.00 credit hours, 10.50 contact hours (3.50 hours lecture, 1.00 hour lab and 6.00 hours clinical). Prerequisite: C grade (2.00) or better in NPN-102, NPN-110 and (BIO-121 or [BIO-130 and BIO-131]). Course is graded A-F. This course focuses on patient-centered care for adults experiencing common, acute and chronic, physical and mental health alterations. Basic focused assessment and nursing care skills are developed. Clinical and simulation laboratory experiences assist students in the implementation of the nursing process. The student will have the opportunity to plan and provide care for one or two assigned patients in an acute and/or long term care facility. NPN-115 replaces NPN-111 Health Alterations I for the Practical Nurse in the Semester system. NPN-111 replaced NPN-104 Health Alterations I for the Practical Nurse in the Semester system. NPN-115, NPN-111 and NPN-104 replace NPN-4823 Health Alterations I for PN's in the Quarter system.

NPN-116 Maternal/Child Nursing for PN NPN-116 Maternal/Child Nursing for the Practical Nurse 4 credit hours, 6 contact hours (3 hours lecture, 1.50 hours lab and 1.50 hours clinical). Prerequisite: C grade (2.00) or better in NPN-115. Concurrent enrollment in NPN-112 and NPN-117. Course is graded A-F. In this course, the student will be introduced to the nursing care of individuals and families during the childbearing experience and to the care of children with common health alterations. The student gains the knowledge, skills, and attitudes necessary to provide safe and effective care. The role of the practical nurse in promoting health and meeting the developmental needs of the individual and family will be emphasized. Simulation laboratory practice and selected clinical experiences assist the student in the development of basic skills needed to care for maternal/child patients. NPN-116 replaces NPN-114 Maternal/Child Nursing for the Practical Nurse and NPN-107 Maternal/Child Nursing for the Practical Nurse in the Semester system. NPN-116, NPN-114 and NPN-107 replace NPN-4829 Maternal/Child Nursing for the Practical Nursing Student in the Quarter system.

NPN-117 Transition to Practice for PN Students NPN-117 Transition to Practice for the Practical Nursing Student 1 credit hour, 1 contact hours (1 hour lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in NPN-115 and concurrent enrollment in NPN-112 and NPN-116. Course is graded A-F. This course provides a transition for the student nurse to the role of the licensed practical nurse. Career planning, resume writing, and interviewing skills will be developed. The student will prepare for the

practical nursing licensure exam through completion of case studies, NCLEX-review questions, and test-taking strategies. The course also includes a comprehensive review course which will assist the student in preparing for the NCLEX-PN exam. Through comprehensive assessment testing, the student will have the opportunity to identify knowledge deficits and complete a plan of remediation based on individual learning needs. This course typically is offered as a term course. NPN-117 replaces NPN-113 Transition to Practice for the Practical Nursing Student and NPN-108 Transition to Practice for the Practical Nursing Student in the Semester system. NPN-117, NPN-113 and NPN-108 replace NPN-4809 Trends and Issues for the Practical Nurse in the Quarter system.

NURS-002 Basic Health Care Skills NURS-002 Basic Health Care Skills 3.50 credit hours, 5.50 contact hours (2.50 hours lecture, 2.00 hours lab and 1.00 hour clinical). Prerequisite: The student must be 16 years of age or older to enroll. A two-step Mantoux test for tuberculosis must be completed by the first day of class. A criminal background check (BCI) is required within six months prior to starting this course. Results must be available by the first day of the class. Students are required to wear a specified uniform. Course is graded A-F. This course prepares a basic health care worker with skills required by the Training and Competency Evaluation Program (TCEP) prior to gaining eligibility to become a State Tested Nurse Aide (STNA) and/or to obtain employment as a home health aide. Content includes communication, infection control, safety and emergency procedures, promoting resident/patient independence, respecting resident/patient rights, basic nursing skills, personal care skills, providing care in a home setting, mental health and social service needs and basic restorative services. College lab permits development of various basic nursing skills. These skills are then implemented during a 20-hour clinical experience in a local health care facility. NURS-002 replaces NURS-001 Basic Health Care Skills in the Semester system. Both NURS-002 and NURS-001 replaced NUR-4015 Basic Health Care Skills in the Quarter system.

NURS-107 Introduction to Pharmacology NURS-107 Introduction to Pharmacology 2.50 credit hours, 4.50 contact hours (1.50 hours lecture and 3 hours lab). Prerequisite: Admission to the Nursing Technology A.D.N. or L.P.N. to A.D.N. program. Course is graded A-F. This course introduces the student to the role of the professional nurse in drug therapy for patients of all ages. The focus of this course is on the principles associated with safe and effective medication administration, including basic pharmacokinetics, drug control laws, selected methods of medication administration, dosage calculation, and approved abbreviations. The laboratory setting is utilized to develop the skills necessary for safe medication administration. This course introduces drug classifications for the various body systems. NURS-107 Introduction to Pharmacology replaces NURS-102 Introduction to Pharmacology in the semester system.

NURS-108 Fundamentals of Nursing NURS-108 Fundamentals of Nursing 6 credit hours, 12 contact hours (3 hours lecture, 3 hours lab and 6 hours clinical). Prerequisite: C grade (2.00) or better in BIO-130, MATH-130, NURS-107 and PSY-100. Course is graded A-F. This course introduces the student to the knowledge, skills, and attitudes needed for safe and effective practice as a professional nurse. Comprehensive health assessment and basic care for common physiological, psychosocial, spiritual, and cultural patient needs across the lifespan are examined. The student will learn fundamental nursing skills appropriate for the professional nurse. These skills are developed in the nursing lab and applied to adult patients in the health care practice setting. NURS-108 replaces NURS-103 Fundamentals of Nursing in the Semester system.

NURS-115 Introduction to Professional Nursing NURS-115 Introduction to Professional Nursing 1 credit hour, 1 contact hour (1 hour lecture and 0 hours lab). Prerequisite: Admission to the Associate Degree Nursing Program. Course is graded A-F. This course is designed to introduce the nursing student to the registered nursing profession and the nursing program at Central Ohio Technical College. Emphasis is placed on the role of the professional nurse, law and rule, professional nursing organizations, communication, culture, nursing process, evidence-based practice, and clinical decision making. The student will also explore legal and ethical aspects of nursing, professionalism, uses of technology, and healthcare delivery systems as they influence the practice of nursing. NURS-115 replaces NURS-101 Introduction to Professional Nursing in the Semester system. Both NURS-115 and NURS-101 replace NUR-4243 Introduction to Professional Nursing in the Quarter system.

NURS-117 Introduction to Adult Health NURS-117 Introduction to Adult Health 6 credit hours, 12 contact hours (3 hours lecture, 3 hours lab, and 6 hours clinical). Prerequisite: C grade (2.00) or better in NURS-108, BIO-131 and SPCH-210. Course is graded A-F. This course focuses on patient-centered care for adults of all ages experiencing common acute and chronic stable physical and mental health alterations. The student will build on fundamental concepts of collaboration, evidence-based practice, and safe, effective quality care. Clinical experiences coupled with simulation laboratory practice assist students in continued development of skills, implementation of the nursing process and development of nursing judgment to integrate theory into practice. The student will have the opportunity to plan and provide care for one adult patient each clinical rotation in a medical surgical setting. NURS-117 replaces NURS-116 Introduction to Adult Health in the semester system. Both NURS-117 and NURS-116 replace NURS-111 Introduction to Adult Health in the semester system. NURS-117, NURS-116 and NURS-111 replace NURS-109 Adult Health I/NURS-105 Adult Health I and NURS-110 Adult Health II/NURS-106-Adult Health II in the Semester system. There is no Quarter equivalent course for NURS-117, NURS-116, NURS-111, NURS-105, NURS-109 or NURS-110.

NURS-201 Advanced Adult Health NURS-201 Advanced Adult Health 7 credit hours, 15 contact hours (3 hours lecture, 3 hours lab and 9 hours clinical). Prerequisite: C grade (2.00) or better in ENGL-112 and NURS-111 and concurrent enrollment in NURS-211. Course is graded A-F. This course focuses on the management of patient-centered care for adults of all ages experiencing acute and chronic, multisystem, complex health alterations. The student will synthesize and integrate the concepts of collaboration, evidence based practice, and safe, effective quality care. Clinical experiences coupled with simulation laboratory practice assist students in assimilation of skills, inquiry, and development of nursing judgment to integrate theory into practice. The student will have the opportunity to plan and provide care for 1-3 adult patients based on acuity level within medical-surgical or critical care areas. NURS-201 Advanced Adult Health (formerly named "Adult Health III") is a new course in the Semester system.

NURS-210 LPN to RN Transition NURS-210 LPN to RN Transition 1.50 credit hours, 2 contact hours (1 hour lecture and 1 hour lab). Prerequisite: Admission to the LPN to RN Transition Program. Course is graded A-F. This course is designed to enable the student to explore integrative concepts in nursing and to assist the student in transition from licensed practical nurse to registered nurse. The student will refine and update previous learning in addition to identifying goals for successful transition into the registered nursing program. Combined with classroom and nursing laboratory experiences, the student learns through application of concepts. The student will demonstrate the ability to solve problems through the use of the nursing process with a focus on client assessment and effective

communication. (Excerpted from Ohio Nursing Collaborative for Nursing Mobility.) This course is currently offered as a term course. NURS-210 replaces NURS-200 LPN to RN Transition in the Semester system; there was no Quarter system equivalent. Both NURS-210 and NURS-200 meet the Career Technical Credit Transfer (C-TAG) standards for course CTADNUR002.

NURS-211 Family Centered Care I NURS-211 Family Centered Care I 3 credit hours, 5 contact hours (2 hours lecture, 0 hours lab and 3 hours clinical). Prerequisite: C grade (2.00) or better in NURS-116 or NURS-117. Course is graded A-F. In this course, the student will utilize the nursing process to provide family-centered care for pediatric patients and their families experiencing common acute, congenital, and chronic health alterations. The student will synthesize and integrate nursing knowledge, skill and attitudes to provide evidence-based, safe, effective quality care to facilitate physiologic ad psychosocial integrity. The student will have the opportunity to promote health and wellness of the pediatric population between the ages of 3 days and 18 years. The student will have the opportunity to develop clinical reasoning skills in a controlled setting when caring for the pediatric population. NURS-211 Family Centered Care I and NURS-212 Family Centered Care II replace NURS-202 Family Centered Care in the Semester system. There was no Quarter system equivalent for NURS-211, NURS-212 or NURS-202. NURS-211, NURS-212 and NURS-202 meet the Career Technical Credit Transfer (C-TAG) standards for course CTADNUR002.

NURS-213 Management of Care NURS-213 Management of Care 6.50 credit hours, 13 contact hours (3 hours lecture, 1 hour lab, and 9 hours clinical). Prerequisite: C grade (2.00) or better in ENGL-113, NURS-201 and NURS-211. Concurrent Enrollment in NURS-212. Course is graded A-F. This course focuses on trends in professional nursing, the development of leadership and management of care knowledge, and the behaviors required for the beginning nurse generalist. The student examines current issues and trends which impact the profession, and discusses legal, economic, political, cultural, and ethical issues that impact the nurse, the profession, and the delivery of health care. The clinical experiences provide opportunities to apply leadership and management of care through collaboration with members of the health care team. The student assumes professional nursing roles working under the supervision of faculty or RN preceptors. Clinical and simulation laboratory activities focus on developing the competencies needed to transition into entry-level nursing practice. NURS-213 replaces NURS-208 in the Semester system. Both NURS-213 and NURS-208 replace NURS-206 Management of Care, NURS-203 Nursing Capstone and NURS-204 Management of Care in the Semester system. There is no Quarter course equivalent for NURS-213, NURS-208, NURS-206, NURS-203 or NURS-204.

NURS-214 Management of Care - Preceptorship NURS-214 Management of Care - Preceptorship 6.50 credit hours, 13 contact hours (3 hours lecture, 1 hour lab, and 9 hours clinical). Prerequisite: C grade (2.00) or better in ENGL-113, NURS-201 and NURS-211. Concurrent Enrollment in NURS-212. Course is graded A-F. This course focuses on trends in professional nursing, the development of leadership and management of care knowledge, and the behaviors required for the beginning nurse generalist. The student examines current issues and trends which impact the profession, and discusses legal, economic, political, cultural, and ethical issues that impact the nurse, the profession, and the delivery of health care. The clinical experiences provide opportunities to apply leadership and management of care through collaboration with members of the health care team. The student assumes professional nursing roles working under the supervision of faculty or RN preceptors. Clinical and simulation laboratory activities focus on developing the competencies needed to transition into entry-level nursing practice. NURS-214 replaces NURS-209 in the Semester system. Both NURS-214 and

NURS-209 replace NURS-206 Management of Care, NURS-203 Nursing Capstone and NURS-204 Management of Care in the Semester system. There is no Quarter course equivalent for NURS-214, NURS-209, NURS-206, NURS-203 or NURS-204.

NURS-215 Family Centered Care NURS-215 Family Centered Care 3 credit hours, 5 contact hours (2 hours lecture, 0 hours lab and 3 hours clinical). Prerequisite: C grade (2.00) or better in NURS-116 and nurs-211. Concurrent enrollment in NURS-213 or NURS-214. Course is graded A-F. In this course, the student will utilize the nursing process to provide patient-centered care for individuals and families experiencing reproductive health care needs, during the childbearing event, and newborns with common health alterations. The student will synthesize and integrate nursing knowledge, skill and attitudes to provide evidence-based, safe, effective quality care to facilitate physiologic ad psychosocial integrity. The student will have the opportunity to promote health and wellness of the maternal/child population and those with reproductive health needs. The student will have the opportunity to develop clinical judgment in the clinical setting when caring for these groups of patients. NURS-215 replaces NURS-212 Family Centered Care II. NURS-215, NURS-212 Family Centered Care II and NURS-211 Family Centered Care I replace NURS-202 Family Centered Care in the Semester system. There was no Quarter system equivalent for NURS-215, NURS-212, NURS-211 or NURS-202. NURS-215, NURS-212, NURS-211 and NURS-202 meet the Career Technical Credit Transfer (C-TAG) standards for course CTADNUR002.

PHIL-100 Critical ThinkingPHIL-100 Critical Thinking 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course examines the basic elements of logic, argument analysis, and argument construction. Topics include arguments, deductive and inductive reasoning, formal and informal fallacies, and rhetoric. This course develops student's abilities to think critically, to understand and carefully construct arguments, and to understand the uses of language in a variety of contexts. PHIL-100 replaces BHS-1006 Critical Thinking in the Quarter system. PHIL-100 meets the Ohio Transfer Module standards for course TMAH

PHIL-150 Introduction to Philosophy PHIL-150 Introduction to Philosophy 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in ENGL-112. Course is graded A-F. This course is a general survey of the basic problems and systems in western philosophy. Special consideration is given to elementary logic, epistemology, metaphysics, and ethics. PHIL-150 is a new course in the Semester system. PHIL-150 meets the Ohio Transfer Module standards for course TMAH. PHIL-150 meets the Ohio Transfer Assurance Guide standards for course OAH045.

PHIL-200 Introduction to Ethics PHIL-200 Introduction to Ethics 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in ENGL-112. Course is graded A-F. This course explores ethical theories as well as ethical practices. It seeks to develop critical thinking skills as a basis for ethical choice using lectures, open discussion and case studies. A variety of topics will be evaluated in a cultural, social and historical context. PHIL-200 replaces BHS-1340 Ethics in the Quarter system. PHIL-200 meets the Ohio Transfer Module standards for course TMAH. PHIL-200 meets the Ohio Transfer Assurance Guide standards for course OAH046.

PHYS-105 Elementary Physics PHYS-105 Elementary Physics 4 credit hours, 6 contact hours (3 hours lecture and 3 hours lab). Prerequisite: C grade (2.00) or better in MATH-080 or appropriate placement per COTC Assessment and Placement policy. Recommend completion of or concurrent enrollment in a pre-college or college level composition course. Course is graded A-F. Elementary Physics provides a brief survey of fundamental concepts of science, mechanics, the properties of matter,

heat, sound, electricity and magnetism, light, atomic physics, and nuclear physics. The student will apply the concepts in the laboratory portion of the course. PHYS-105 replaces PHYS-100 and replaces PHY-1721 General Physics in the Quarter System.

PHYS-112 General Physics I PHYS-112 General Physics I 5 credit hours, 6 contact hours (4 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in MATH-150 or appropriate placement per COTC Assessment and Placement policy. Recommend completion of or concurrent enrollment in a pre-college or college level composition course. Course is graded A-F. This is the first course of a two-semester algebra-based physics sequence primarily intended for majors in biology, chemistry, pre-medicine, and engineering technology. It presents an experimental and analytical study of one- and two-dimensional kinematics, Newtonian mechanics, dynamics, rotational motion, linear and angular momenta, collisions, work and energy, conservation laws, properties of matter, simple harmonic motion, and waves and sound. PHYS-112 replaces PHYS-110 Physics I in the Semester system. Both PHYS-112 and PHYS-110 replace PHY-1726 Physics I Mechanics and PHY-1728 Physics III Heat, Light and Sound in the Quarter System.

PHYS-113 Physics II PHYS-113 Physics II 5 credit hours, 6 contact hours (4 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in PHYS-112. Recommend completion of or concurrent enrollment in a pre-college or college level composition course. Course is graded A-F. This is the second course of the two-semester algebra-based physics sequence. The topics include electrostatics, electric forces and fields, electric potential, DC and AC circuits, magnetism, electromagnetic induction, electromagnetic waves, ray and wave optics, quantum physics, atoms and molecules, and nuclear physics. PHYS-113 replaces PHYS-111 Physics II in the Semester system. Both PHYS-113 and PHYS-111 replace PHY-1727 Physics II Electricity and Magnetism and PHY-1728 Physics III Heat, Light and Sound in the Quarter System.

PSY-100 Introduction to Psychology PSY-100 Introduction to Psychology 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in GENR-090 or appropriate placement per COTC Assessment and Placement policy. Course is graded A-F. Introduction to Psychology provides an introduction to the areas of basic theoretical constructs, nervous system functioning, perception, learning, memory, emotion, cognition, intelligence, personality theories, stress social psychology and motivational psychology. PSY-100 replaced PSYCH-100 Introduction to Psychology in the Semester system. Both PSY-100 and PSYCH-100 replace BHS-1376 General Psychology in the Quarter system. Both PSY-100 and PSYCH-100 meet Ohio Transfer Module standards for course TMSBS. Both PSY-100 and PSYCH-100 meet Ohio Transfer Assurance Guides standards for course OSS015.

PSY-200 Abnormal Psychology PSY-200 Abnormal Psychology 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in PSY-100. Course is graded A-F. Abnormal Psychology is the study of psychological disorders with emphasis on current theoretical views, assessment, clinical characteristics, causes and treatments. Major areas of study include anxiety disorders, stress disorders, mood disorders, somatoform disorders, dissociative disorders, substance abuse disorders, psychotic disorders and personality disorders. PSY-200 replaces PSYCH-200 Abnormal Psychology in the Semester system. Both PSY-200 and PSYCH-200 replace BHS-1378 Abnormal Psychology in the Quarter system. Both PSY-200 and PSYCH-200 meet Ohio Transfer Module standards for course TMSBS. Both PSY-200 and PSYCH-200 meet Ohio Transfer Assurance Guides standards for course OSS017.

PSY-210 Developmental Psychology PSY-210 Developmental Psychology 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in PSY-100. Course is graded A-F. This course is a study of human development as a dynamic, multi-dimensional process from conception through death. Emphasis is placed on the inter-relationship of the many biopsychosocial factors influencing human development, general principles of growth and development, major developmental tasks encompassing each stage of the life cycle, and health and development problems common to each stage. Course requirements include a project focusing on the application of human development theories, concepts, principles, and tasks. PSY-210 replaces PSYCH-210 Development Psychology in the Semester system. Both PSY-210 and PSYCH-210 replace BHS-1345 Human Development in the Quarter system. Both PSY-210 and PSYCH-210 meet Ohio Transfer Module standards for course TMSBS. Both PSY-210 and PSYCH-210 meet Ohio Transfer Assurance Guides standards for OSS048.

PSY-220 Social Psychology PSY-220 Social Psychology 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in PSY-100. Course is graded A-F. Social psychology is the study of the recipriocal influence of individuals and social situations. Major areas of study include basic theoretical concepts, social cognition and perception, the emergence of the self, attitudes including stereotyping and prejudice, discrimination, relationships, conformity, prosocial behavior, aggression and the social effects of belonging. PSY-220 replaces PSYCH-220 Social Psychology in the Semester system. Both PSY-220 and PSYCH-220 replace BHS-1370 Social Psychology in the Quarter system. Both PSY-220 and PSYCH-220 meet the Ohio Transfer Module standards for course TMSBS. Both PSy-220 and PSYCH-220 meet Ohio Transfer Assurance Guide standards for course OSS016.

RAD-101 Imaging Procedures I RAD-101 Imaging Procedures I 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: Admission to the Radiologic Science Technology program, C grade or better (2.00) MATH-140 and a C grade (2.00) or better in HLT-110 or concurrent enrollment in HLT-110. Course is graded A-F. The student will be introduced to the basic radiographic positioning principles and terminology. This course also covers radiographic imaging of the chest, abdomen and upper and lower extremities. Emphasis is on the anatomy, routine positioning and common pathologies demonstrated. RAD-101 replaces MEDIMG-101 Imaging Procedures I in the Semester system. Both RAD-101 and MEDIMG-101 replace RAD-4103 RAD Anatomy and Positioning I and RAD-4102 RAD Anatomy and Procedures II in the Quarter system.

RAD-103 Imaging Procedures II RAD-103 Imaging Procedures II 3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisites: C grade (2.00) or better in RAD 101. Course is graded A-F. The student will study the basic anatomy and positioning of the vertebral column, digestive and urinary system, and cranium. They will also study additional diagnostic procedures to include ERCP, arthrography, myelography, sialography and hystersalingography, trauma and C-arms. The types and uses of contrast media will also be presented. The student will have the opportunity to apply classroom theory in the college laboratory setting. RAD-103 replaces RAD-102 Imaging Procedures II in the Semester system. Both RAD-103 and RAD-102 replace MEDIMG-102 Imaging Procedures II in the Semester system. RAD-103, RAD-102 and MEDIMG-102 replace RAD-4102 RAD Anatomy and Positioning II in the Quarter system.

RAD-130 Radiation Physics I RAD-130 Radiation Physics I 1.50 credit hours, 1.50 contact hours (1.50 hours lecture and 0 hours lab). Prerequisite: Enrollment in the Radiologic Science Technology program. Course is graded A-F. This course discusses the principles of physics as they relate to radiation. Topics to be covered include electromagnetic and particulate radiation, electrodynamics and electrostatics. RAD-130 replaces MEDIMG-130 Radiation Physics in the Semester system. Both RAD-130 and MEDIMG-130 replace RAD-4157 Radiation Physics I and RAD-4158 Radiation Physics II in the Quarter system.

RAD-131 Radiation Physics II RAD-131 Radiation Physics II 1.50 credit hours, 1.50 contact hours (1.50 hours lecture and 0 hours lab). Prerequisite: Enrollment in the Radiologic Sciences program. C grade (2.00) or better in RAD-130. Course is graded A-F. This course is a continuation of RAD-130 Radiation Physics I. The student will apply knowledge to the construction and use of the radiographic equipment. Special emphasis will be placed on the effects of radiographic techniques and image formation. RAD-131 Radiation Physics II replaces MEDIMG-131 Radiation Physics in the Semester system. Both RAD-131 and MEDIMG-131 replace RAD-4158 Radiation Physics II in the Quarter system.

RAD-133 Image Acquisition RAD-133 Image Acquisition 4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: Enrollment in the Radiologic Sciences Technology program. Course is graded A-F. This course is the study of the science of determining diagnostic radiographic exposure factors. Topics to be covered include image acquisition in film/screen, digital and fluoroscopic modalities. The production and control of scatter, radiation will be discussed. The student will evaluate images for contrast, density, detail, distortion and human pathology influence. RAD-133 replaces MEDIMG-133 Image Acquisition in the Semester system. Both RAD-133 and MEDIMG-133 replace RAD-4184 Principles of Radiographic Exposure and RAD-4187 Radiologic Imaging Modalities in the Quarter system.

RAD-135 Radiobiology & Radiation Protection RAD-135 Radiobiology and Radiation Protection 1 credit hour, 3 contact hours (0 hours lecture and 3 hours lab). Prerequisite: Enrollment in Radiologic Sciences Technology program; C grade (2.00) or better in RAD-131 or permission of the instructor. Course is graded A-F. This radiographic technology course presents the study of radiobiology, radiation protection and safety and methods of minimizing radiation exposure to occupational workers and patients. The radiobiology portion of the course includes the following topics: molecular and cellular radiobiology, early and late effects of radiation exposure and theories related to the effect of ionizing radiation on humans. During the radiation protection and safety segment students will be introduced to state and federal regulations and discuss various methods of minimizing radiation exposure. RAD-135 replaces RAD-132 Radiobiology & Radiation Protection in the semester system. Both RAD-135 and RAD-132 replace MEDIMG-132 Radiobiology and Radiation Protection in the Semester system. RAD-135, RAD-132 and MEDIMG-132 replace RAD-4139 Radiation Protection in the Quarter system.

RAD-154 Medical Imaging Seminar I RAD-154 Medical Imaging Seminar I 1 credit hour, 1 contact hour (1 hour lecture and 0 hours lab). Prerequisite: Enrollment in the Radiologic Sciences Technology program; C grade (2.00) or better in RAD-131 and RAD-133. Course is graded A-F. This course provides the student with the opportunity to discuss the principles of radiographic imaging in an integrated approach. Application of previously learned concepts will be discussed relative to the clinical setting. RAD-154 replaces MEDIMG-154 Medical Imaging Seminar in the Semester system. Both RAD-154 and MEDIMG-154 replace RAD-4154 Radiographic Seminar I in the Quarter system.

RAD-165 Patient Care & Management II RAD-165 Patient Care and Management II 1 credit hour, 2 contact hours (0 hours lecture and 2 hours lab). Prerequisite: Enrollment in the Radiologic Sciences Technology program. Course is graded A-F. During this second course in the Patient Care sequence, the student is introduced to surgical and medical asepsis, patient advocacy, contrast and, general pharmacology, and medico-legal aspects of radiography. Principles of conflict management and the impact of values and beliefs on patient communication will be discussed. RAD-165 Patient Care and Management II replaces MEDIMG-165 Patient Care and Management II in the Semester system. Both RAD-165 and MEDIMG-165 replace RAD-4109 Patient Care and Management I and RAD-4165 Patient Care and Management II in the Quarter system.

RAD-166 Patient Care & Management III RAD-166 Patient Care and Management III 1 credit hour, 1 contact hour (1 hour lecture and 0 hours lab). Prerequisite: Enrollment in the Radiologic Sciences Technology program; C grade (2.00) or better in RAD-165. Course is graded A-F. During this patient care course, the student is introduced to special patient situations encountered with critical care, orthopedic and geriatric patients. Radiographer's interventions and responsibilities will be discussed. The student will evaluate images to determine appropriate internal placement of medical devices, such as chest tubes and endotracheal tubes. The student will identify communication problems when providing care to these special populations. RAD-166 Patient Care and Management III replaces MEDIMG-166 Patient Care and Management III in the Semester system. Both RAD-166 and MEDIMG-166 replace RAD-4165 Patient Care and Management II and RAD-4166 Patient Care and Management III in the Quarter system.

RAD-184 Orientation to Clinical Environment RAD-184 Orientation to Clinical Environment 0.50 credit hours, 1.50 contact hours (0 hours lecture and 1.50 hours lab). Prerequisite: Enrollment in the Radiologic Sciences Technology program. Course is graded S/U. This course provides an orientation to the clinical environment. Topics covered are designed to prepare the student for safe practice in the clinical setting. Topics include radiation safety, OSHA standards, policies and procedures; code of ethics. This course is graded on a Satisfactory/ Unsatisfactory basis. RAD-184 Orientation to Clinical Environment replaces MEDIMG-184 Orientation to Clinical Environment in the Semester system. Both RAD-184 and MEDIMG-184 replace RAD-4130 Pre-Clinical Radiology in the Quarter system.

RAD-186 Clinical Education in Radiology IIRAD-186 Clinical Education in Radiology II 2 credit hours, 16 contact hours (1 hour lecture, 0 hours lab and 15 hours directed practice [clinical]). Prerequisite: Enrollment in the Radiologic Sciences Technology program; Satisfactory grade in RAD-185 or RAD-188. Course is graded S/U. During this clinical experience the student will gain practical experience and begin to apply cognitive, psychomotor, and affective skills in the clinical setting. The student will function under the supervision of qualified radiographers or physicians. This course will meet for one hour weekly on campus with the program faculty. This course is graded on a Satisfactory/ Unsatisfactory basis. RAD-186 Clinical Education in Radiology II replaces MEDIMG-186 Clinical Education in Radiology II in the Semester system. Both RAD-186 and MEDIMG-186 replace RAD-414 Clinical Radiology I and RAD-4150 Clinical Education in Radiology II in the Quarter system.

RAD-188 Clinical Education in Radiology I RAD-188 Clinical Education in Radiology I 1.50 credit hour, 16.00 contact hours (1.00 hour meetings with faculty for 10 weeks [0.50 lecture hours]), 0 hours lab and 15.00 hours directed practice [clinical]). Prerequisite: Enrollment in the Radiologic Technology Sciences Program. Course is graded S/U. During this clinical experience students will gain practical

experience and begin to apply cognitive, psychomotor, and affective skills in the clinical setting. Students will function under the supervision of qualified radiographers or physicians. This course will meet for one hour weekly on campus with the program faculty. This course is graded on a Satisfactory/ Unsatisfactory basis. RAD-188 replaces RAD-185 Clinical Education in Radiology I in the Semester system in 2015-2016 (formerly RAD-188 was titled, "Clinical Education in Radiology II"). Both RAD-188 and RAD-185 replace MEDIMG-185 Clinical Education in Radiology I in the Semester system. RAD-188, RAD-185 and MEDIMG-185 replace RAD-4146 Clinical Radiology I in the Quarter system.

RAD-212 Radiologic Pathology I RAD-212 Radiologic Pathology I 1 credit hour, 1 contact hour (1 hour lecture and 0 hours lab). Prerequisite: Enrollment in the RAD program and completion of RAD 284 with grade of Satisfactory. Course is graded A-F. This course discusses the principles of human pathophysiology, the signs symptoms, diagnosis and treatment of numerous pathological processes of the respiratory, skeletal, cardiovascular, endrocrinological and hemopoietic systems. Topics will include the imaging implications and methods to best demonstrate various pathologies. RAD-212 replaces RAD-210 Radiologic Pathology I in the semester system. Both RAD-212 and RAD-210 replace MEDIMG-210 Radiologic Pathology I in the Semester system. Both RAD-210 and MEDIMG-210 replace RAD-4160 Principles of Pathology for Radiographers in the Quarter system.

RAD-213 Radiologic Pathology II RAD-213 Radiologic Pathology II 1 credit hour, 1 contact hour (1 hour lecture and 0 hours lab). Prerequisite: Enrollment in the Radiologic Sciences Technology program; C grade (2.00) or better in RAD-212. Course is graded A-F. This course discusses the principles of human pathophysiology, the signs symptoms, diagnosis and treatment of numerous pathological processes of the gastrointestinal, nervous, reproductive, urinary systems in addition to nutritional and systemic pathologies. Topics will include the imaging implications and methods to best demonstrate various pathologies. RAD-213 replaces RAD-211 Radiologic Pathology II in the semester system. Both RAD-212 and RAD-211 replace MEDIMG-211 Radiologic Pathology II in the Semester system. RAD-212, RAD-211 and MEDIMG-211 replace RAD-4160 Principles of Pathology for Radiographers in the Quarter system.

RAD-226 Departmental Administration RAD-226 Department Administration 1.50 credit hours, 1.50 contact hours (1.50 hours lecture and 0 hours lab). Prerequisite: Second Year Status in Radiologic Sciences Technology program. Course is graded A-F. This course is designed to introduce the student to basic principles of hospital administration and organization and relates those principles to the management of the imaging department. The student will have the opportunity to review the concepts of hospital organization, financing, employment practices and quality control. Upon completion of this course, the student should gain an insight of the overall administration of hospitals and departments within the hospital. This course should provide basic management skills and knowledge for those students interested in pursuing a supervisory position in the radiology department. RAD-226 replaces MEDIMG-226 Department Administration in the Semester system. Both RAD-226 and MEDIMG-226 replace RAD-4126 Department Administration in the Quarter system.

RAD-233 Quality Assurance & Image Production RAD-233 Quality Assurance and Image Production 3 credit hours, 5 contact hours (2 hours lecture and 3 hours lab). Prerequisite: Enrollment in the Radiologic Sciences Technology program; C grade (2.00) or better in RAD-133. Course is graded A-F. The importance of quality assurance programs in the medical imaging department is discussed in this course. The student will be introduced to the basic testing procedures of all aspects of the imaging chain for both film/screen and digital imaging systems. The student will analyze the finished radiograph

and identify all factors which alter quality. The principles of computer integrated imaging will be discussed relative to radiography and fluoroscopy. RAD-233 replaces MEDIMG-233 Quality Assurance and Image Production in the Semester System. Both RAD-233 and MEDIMG-233 replace RAD-4185 Advanced Exposure/Quality Assurance and RAD-4187 Radiologic Imaging Modalities in the Quarter system.

RAD-246 Current Issues & Ethics in Medical Imagi RAD-246 Current Issues and Ethics in Medical Imaging 1.50 credit hours, 1.50 contact hours (1.50 hours lecture and 0 hours lab). Prerequisite: Second Year Status in the Radiologic Science Technology program. Course is graded A-F. This course deals with current issues relevant to imaging departments and personnel. In addition, there is a brief review of ethics as applied to the radiology profession. Upon completion of the course, the student will be prepared to deal with similar issues that they may encounter in their employment as staff imagers. RAD-246 replaces MEDIMG-246 Current Issues and Ethics in Medical Imaging in the Semester system. Both RAD-246 and MEDIMG-246 replace RAD-4046 Current Issues in Allied Health in the Quarter system.

RAD-255 Medical Imaging Seminar II RAD-255 Medical Imaging Seminar II 1 credit hour, 1 contact hour (1 hour lecture and 0 hours lab). Prerequisite: Enrollment in the Radiologic Science Technology program; C grade (2.00) or better in RAD-233. Course is graded A-F. This course provides the correlation between previously learned radiographic concepts and clinical application. It is designed to aid the transition to the entry level radiographer. General topics of discussion include radiation protection, equipment operation and maintenance, image production and evaluation, radiographic positioning and patient care procedures. Requirements for ethical and legal practice of radiography in Ohio are discussed. RAD-255 replaces RAD-254 Medical Imaging Seminar II in the Semester system. Both RAD-255 and RAD-254 replace MEDIMG-254 Medical Imaging Seminar II in the Semester system. RAD-255, RAD-254 and MEDIMG-254 replace RAD-4155 Radiographic Seminar II in the Quarter system.

RAD-267 Patient Care & Management IV RAD-267 Patient Care and Management IV 1 credit hour, 2 contact hours (0 hours lecture and 2 hours lab). Prerequisite: Enrollment in the Radiologic Sciences Technology program; C grade (2.00) or better in RAD-166. Course is graded A-F. The final course in the patient care sequence is designed to provide the student with knowledge and practice in the use of electrocardiograms and monitor, venipuncture and contrast administration techniques, pediatric radiology, forensic radiology and common laboratory procedures. RAD-267 replaces MEDIMG-267 Patient Care and Management IV in the Semester system. Both RAD-267 and MEDIMG-267 replace RAD-4167 Patient Care and Management IV and RAD-4168 Patient Care and Management V in the Quarter system.

RAD-284 Clinical Education in Radiology IV RAD-284 Clinical Education Radiology IV 3 credit hours, 25 contact hours (1 hour lecture, 0 hours lab and 24 hours directed practice [clinical]). Prerequisite: Enrollment in the Radiologic Sciences Technology program; Satisfactory grade in RAD-186. Course is graded S/U. This course provides clinical experience in one specialty discipline. It is designed to allow the student to apply theories and techniques in specialty discipline imaging. The student will have the opportunity to participate in interventional / surgical radiography, magnetic resonance imaging or computed tomography procedures. Student radiographers will function under the supervision and guidance of the clinical radiographers and physicians in the health care setting. This course will meet for one hour weekly on campus with program faculty. This course is graded on a Satisfactory/ Unsatisfactory basis. RAD-284 replaces RAD-285 Clinical Education in Radiology III in the semester

system. Both RAD-284 and RAD-285 replace MEDIMG-285 Clinical Education Radiology IV in the Semester system. RAD-284, RAD-285 and MEDIMG-285 replace RAD-4159 Clinical Radiology IV in the Quarter system.

RAD-286 Clinical Education in Radiology IV RAD-286 Clinical Education in Radiology IV 2 credit hours, 16 contact hours (1 hour lecture, 0 hours lab, and 15 hours directed practice [clinical]). Prerequisite: Enrollment in the Radiologic Sciences Technology program; Satisfactory grade in RAD-285. Course is graded S/U. This course provides advanced experience in the clinical setting. It is designed to allow the student to apply previously learned theories and techniques for radiographic imaging. The student will have the opportunity to observe angiography and specialized procedures. Student radiographers will function under the supervision and guidance of the clinical radiographers and physicians in the health care setting. Hospital computer systems will be discussed. This course will meet for one hour weekly on campus with program faculty. This course is graded on a Satisfactory/ Unsatisfactory basis. RAD-286 replaces MEDIMG-286 Clinical Education in Radiology in the Semester system. Both RAD-286 and MEDIMG-286 replace RAD-4148 Clinical Radiology VI and RAD-4179 Clinical Education in Radiology V in the Quarter system.

RAD-288 Clinical Education in Radiology V RAD-288 Clinical Education in Radiology V 2 credit hours 17 contact hours (1 hour meetings with faculty [for a total of 10 hours per semester], 0 hours lab and 16 hours directed practice [for a total of 240 contact hours per semester]). Prerequisite: Enrollment in the Radiologic Technology Sciences Program and a Satisfactory grade in RAD-286. Course is graded S/U. This course provides advanced experience in the clinical setting. It is designed to allow the student to apply previously learned theories and techniques for radiographic imaging. Student radiographers will function under the supervision and guidance of the clinical radiographers and physicians in the health care setting. This course will meet for one hour weekly on campus with program faculty. This course is graded on a Satisfactory/ Unsatisfactory basis. RAD-288 is a new course in the Semester system.

RAD-293 CT Instrumentation RAD-293 CT Instrumentation 2.50 credit hours, 2.50 contact hours (2.50 hours lecture and 0 hours lab). Prerequisite: Enrollment in the Radiologic Science Technology Program, C grade (2.00) or better in RAD-212 and DMS-110 or concurrent enrollment in DMS 110, current registration with the American Registry of Radiologic Technologists and permission of Program Director. Course is graded A-F. This course provides the physical principles and instrumentation of Computed Tomography. CT principles of operation and components, image processing and display, image quality, artifact recognition and reduction are included. RAD-293 replaces RAD-295 CT Instrumentation in the semester system. Both RAD-293 and RAD-295 replace RAD-298 CT Instrumentation in the Semester system. RAD-293, RAD-295 and RAD-298 replace MEDIMG-298-CT Instrumentation in the Semester system. RAD-293, RAD-295, RAD-298 and MEDIMG-298 replace RAD-4194 CT Instrumentation in the Quarter system.

SOC-100 Introduction to Sociology SOC-100 Introduction to Sociology 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. Sociology is the study of social groups and societal institutions and their effect on society and individuals. Topics covered include research methods, theoretical perspectives, culture, the structure and organization of society, systems of stratification including global inequality, racial stratification, social class and gender stratification, major social institutions and current topics. SOC-100 replaces BHS-1382 Sociology in the

Quarter system. SOC-100 meets the Ohio Transfer Module standards for course TMSBS and also meets the Ohio Transfer Assurance Guides standards for course OSS021.

SOC-110 Cultural Diversity SOC-110 Cultural Diversity 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This course focuses on the differences and similarities among racial, ethnic, religious and other diverse populations in the United States and includes historical, religious and sociocultural issues and current conflicts. SOC-110 replaces BHS-1379 Cultural Diversity in the Quarter system. SOC-110 meets the Ohio Transfer Guide standards for course TMSBS and also meets the Ohio Transfer Assurance Guides standards for course OSS024.

SPCH-100 Fundamentals of Communication SPCH-100 Fundamentals of Communication 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-F. This introductory course explores oral communication and its impact on the individual in a variety of settings; it examines the basic principles of communication in one-on-one, small group, and public speaking situations. Activities are provided to the student that will allow him or her to practice and develop intrapersonal, interpersonal skills, group decision making and public speaking competence. Upon completion of the course, the student will have a better understanding of the various elements of the communication process, this awareness assisting in both the student's personal and professional life. SPCH-100 replaces COM-1534 Effective Communications in the Quarter System.

SPCH-205 Public Speaking SPCH-205 Public Speaking 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None; However, for a student who elects to take both SPCH-100 and SPCH-205, it is recommended that the student first successfully complete SPCH-100 and then enroll in SPCH- 205. Course is graded A-F. This course emphasizes instruction and practical experience in public speaking. The student will learn to analyze audiences, select topics, apply research learned, organize, and present a series of extemporaneous speeches. This course introduces other interpersonal and intrapersonal communications skills, including listening and nonverbal communications. SPCH-205 replaces COM-1504 Public Speaking in the Quarter System. SPCH-205 meets the Ohio Transfer Module standards for course TMCOM and also meets the Ohio Transfer Assurance Guide standards for OCM013.

SPCH-210 Small Group Communications SPCH-210 Small Group Communication 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None; However, for a student who elects to take both SPCH-100 and SPCH-210, it is recommended that the student first successfully complete SPCH-100 and then enroll in SPCH- 210. Course is graded A-F. This course focuses on the communication process in the small group setting. The student practices the techniques of defining, researching, planning, and group decision making, an emphasis being placed on leadership, participation, and shared responsibility. SPCH-210 replaces COM-1523 Small Group Communications in the Quarter System. SPCH-210 meets the Ohio Transfer Assurance Guide standards for course OCM003.

SURG-135 Pharmacology for Surgical Assisting SURG-135 Pharmacology for Surgical Assisting 1 credit hour, 1 contact hour (1 hour lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in BIO-131 (or concurrent enrollment in BIO-131) and SURG-191; and Satisfactory grade in SURG-184. Course is graded A-F. The student will study the role of the surgical technologist in safe handling of drugs according to operating room policies and procedures. The student will also learn the classification of drugs, and federal and state pharmacy regulations applying to the surgical patient. Further, the student will study the complications and safety of the patient during local, regional and general anesthesia administration. Dosage calculation, life saving drugs, and other drugs commonly used in the

Operating Room (OR) will be discussed. SURG-135 replaces SUR-4601 Pharmacology for Surgical Assisting in the Quarter system.

SURG-190 Basic Surg Tech Lab SURG-190 Basic Surgical Technology Lab 3 credit hours, 9 contact hours (0 hours lecture and 9 hours lab). Prerequisite: Admittance into the Surgical Technology Program; concurrent enrollment in SURG-191 and C grade (2.00) or better in BIO-130 (or concurrent enrollment in BIO-130). Course is graded S/U. During the laboratory exercise, the student will be introduced to the layout of the operating room suite, sterile and sub-sterile areas. The student will practice aseptic technique, scrubbing, gowning, gloving, opening of supplies and creating a sterile field. The student will also be introduced to sterile techniques, movement within the sterile field, surgical instrumentation, operating room equipment, care of specimen, and thermo regulatory devices, vital signs, handling of blood replacement components, urinary catheterization, and emergency procedures. Further, the student will be taught the importance of transportation, positioning, anesthesia of surgical patients, safety procedures, skin preparation and draping of the patient. The student will be given an opportunity to shadow a surgical technologist in surgery. This course is graded on a Satisfactory/ Unsatisfactory basis. SURG-190 replaces SURG-184 Basic Surgical Technology Lab in the semester system. Both SURG-190 and SURG-184 replace SUR-4632 Fundamentals of Surgical Technology Lab and SUR-4634 Patient Care Concepts Lab and SUR-4636 Basic Case Preparation Laboratory in the Quarter system.

SURG-191 Basic Surgical Technology SURG-191 Basic Surgical Technology 5 credit hours, 5 contact hours (5 hours lecture and 0 hours lab). Prerequisite: Admittance into the Surgical Technology Program. C grade (2.00) or better in BIO-130 (or concurrent enrollment in BIO-130) and concurrent enrollment in SURG-190. Course is graded A-F. In this course, the student will be introduced to the operating room techniques, different types of health care facilities, roles of the surgical team members and physical environment of the surgical suite. The history of the development of surgery as well as ethical, moral, and legal responsibilities of the surgical team members, layout of the operating room suite, sterile and sub-sterile areas will be discussed. The student will also discuss the communication, interpersonal and interdepartmental relationship skills needed to function effectively in the operating suite. Further, the students will be introduced to: the basic instrumentation; surgical equipment; supplies (sterile & unsterile); sutures; stapling devices; the care, handling, use and assembly of instruments and equipment; condition of the patient; special population; transportation of the patient; O.R. records; preparation of the patient; aseptic technique; care of specimens; use of thermo regulatory devices; vital signs; handling of blood replacement components; urinary catheterization; diagnostics tests; and emergency procedures, electricity, robotics and computers in the OR. SURG-191 replaces SURG-139 Basic Surgical Technology in the semester system. Both SURG-191 and SURG-139 replace SURG-131 Basic Surgical Technology in the Semester system. SURG-191, SURG-139 and SURG-131 replace SUR-4631 Fundamentals of Surgical Technology and SUR-4633 Patient Care Concepts and SUR-4635 Basic Case Preparation in the Quarter system.

SURG-192 Surgical Procedures I Clinical SURG-192 Surgical Procedures I Clinical 3 credit hours, 15 contact hours (0 hours lecture, 0 hours lab, and 15 hours directed practice [clinical]). Prerequisite: C grade (2.00) or better in BIO-130 and SURG-190 and concurrent enrollment in SURG-193. Course is graded S/U. This course is designed to build on the student's knowledge of basic surgical techniques, professionalism, and ethics. The role of the surgical technologist is developed and applied in basic surgical procedures. The principles of asepsis and patient care concepts of positioning, prepping,

draping, and procedural techniques are applied directly to the investigation of General, Gastrointestinal, Obstetrics, Gynecological, Orthopedic, Ophthalmic, ear/nose/throat, Dental/oral/maxillofacial, Plastic and reconstructive and Neurological surgical procedures. Maintaining the integrity, safety, and efficiency of the sterile and non-sterile areas throughout surgical procedures will be emphasized. Course is graded on a Satisfactory/ Unsatisfactory basis. SURG-192 replaces SURG-186 Surgical Procedures I Clinical in the semester system. Both SURG-192 and SURG-186 replace SUR-4638 Surgical Procedures I: Clinical and SUR-4640 Surgical Procedure II: Clinical in the Quarter system.

SURG-193 Surgical Procedures I SURG-193 Surgical Procedures I 4 credit hours, 4 contact hours (4 hours lecture and 0 hours lab. Prerequisite: C grade (2.00) or better in BIO-130 and SURG-191 and concurrent enrollment in SURG-192. Course is graded A-F. This course is designed to acquaint the student with the operating room procedures and techniques necessary to function in the Operating Room. Discussed will be the relevant anatomy, indications for surgery, special equipment, supplies, purpose and expected outcome and possible complications for procedures in the following surgical specialties: General and Gastrointestinal, Obstetric and Gynecologic, Orthopedic, ophthalmic, ear/nose/throat, dental/oral/maxillofacial, plastic and reconstructive and neurological surgery. The student will have clinical experiences in the above areas, functioning as a second scrub, first scrub or assistant circulator under the supervision of a certified surgical technologist or registered nurse. SURG-193 replaces SURG-141 Surgical Procedures I in the semester system. Both SURG-193 and SURG-141 replace SURG-133 Surgical Procedures I in the Semester system. SURG-193, SURG-141 and SURG-133 replace SUR-4637 Surgical Procedures I and SUR-4639 Surgical Procedures II in the Quarter system.

SURG-194 Surgical Procedures II Clinic SURG-194 Surgical Procedures II Clinical 3 credit hours, 15 contact hours (0 hours lecture, 0 hours lab and 15 hours clinical). Prerequisite: C grade (2.00) or better in BIO-131 and SURG-193 and concurrent enrollment in SURG-195. Course is graded S/U. This course is designed to build on the student's knowledge of surgical technology with emphasis on clinical surgical applications in thoracic, cardiovascular, peripheral vascular, and urology surgical procedures. Clinical experiences will emphasize adapting pediatric concepts in the surgical setting as they are available. The student will be given the opportunity to scrub in these pediatric specialty surgeries: General Surgery, Urology, Orthopedic, Neurosurgery, Thoracic surgery, Cardiovascular surgery, Ophthalmology, Plastic surgery, and ENT surgery. Emphasis is on further development of surgical skills. Course is graded on a Satisfactory/ Unsatisfactory basis. SURG-194 replaces SURG-188 Surgical Procedures II Clinical in the Semester system. Both SURG-194 and SURG-188 replace SUR-4642 Surgical Procedures III: Clinical and SUR-4644 Pediatric Surgery: Clinical in the Quarter system.

SURG-195 Surgical Procedures II SURG-195 Surgical Procedures II 4 credit hours, 4 contact hours (4 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in BIO-131 and SURG-193, Satisfactory grade in SURG-192 and concurrent enrollment in SURG-194. Course is graded A-F. This course is an extension of Surgical Procedures I. Discussed during this course will be the relevant anatomy, indications of surgery, special equipment and supplies, purpose and expected outcome and possible complications for procedures in thoracic, cardiovascular, peripheral vascular, and genitourological. The student will also acquaint with pediatric patients and a variety of surgical procedures unique to this special group. The student will have clinical experience in the above areas, functioning as a second scrub, first scrub, or assist circulator under the supervision of a certified surgical technologist or registered nurse. SURG-195 replaces SURG-143 Surgical Procedures II in the Semester system. Both SURG-1`95 and SURG-143 replace SURG-137 Surgical Procedures II in the Semester

system. SURG-195, SURG-143 and SURG-137 replace SUR-4641 Surgical Procedures III and SUR-4643 Pediatric Surgery in the Quarter system.

SURG-231 Adv Surgical & Specialty Surg Practice SURG-231 Advanced Surgical and Specialty Surgical Practice 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in SURG-141 and concurrent enrollment in SURG-284. Course is graded A-F. This course focuses on continuing surgical theory. It provides study of special problems that correlate with the individual needs and interests of the student during clinical practice. Clinical supervised practice is an integral part of this course. SURG-231 replaces SUR-4645 Advanced Surgical Technology Practicum and SUR-4651 Specialty Surgical Practice in the Quarter system.

SURG-233 Professional Trends & Issues in Surg Tec SURG-233 Professional Trends and Issues in Surgical Technology Seminar 3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in SURG-143 and concurrent enrollment in SURG-284. Course is graded S/U. This course is designed to provide the correlation between previously learned concepts and clinical application. It is designed to aid in transition from surgical technology student to entry level Surgical Technologist. Topics include in this course include General, OB/GYN, Vascular, GU, Cardiothoracic, Plastic and Ophthalmology surgeries. Requirements for ethical and legal practice as defined by the National Association of Surgical Technologists will be reviewed and discussed. Topics discussed will be: factors that affect the student's personal life, professional relations and organizations, preparation for the national certification examination, type of health care delivery agencies, accrediting agencies and job seeking skills. This course is graded on a Satisfactory/ Unsatisfactory basis. SURG-233 replaces SUR-4647 Professional Trends/Issues in Surgical Technology and SUR-4649 Surgical Technology Seminar in the Quarter system.

SURG-284 Adv Surg & Spec Surg Prac Clin SURG-284 Advanced Surgical and Specialty Surgical Practice Clinical 3 credit hours, 15 contact hours (0 hours lecture, 0 hours lab, and 15 hours directed practice [clinical]). Prerequisite: Satisfactory grade in SURG-143 and C grade (2.00) or better in BIO-130 and BIO-131. Course is graded S/U. This course is designed to build on the student's knowledge of surgical technology with emphasis on clinical surgical applications. The student is expected to work with one preceptor during this course, and is expected to perform in the clinical practice with minimal assistance. This course is graded on a Satisfactory/ Unsatisfactory basis. SURG-284 replaces SUR-4646 Advanced Surgical Technology Practicum: Clinical and SUR-4652 Specialty Surgical Practicum: Clinical in the Quarter system.