

## COURSE DESCRIPTIONS

Credit hours = Cr.Hr.  
Prerequisite = Pre-Req.  
Satisfactory/unsatisfactory = S/U

**ACC0000A - AC Elective** - None

**ACC1000A - Fundamentals of Accounting** - ACC1000A is a beginning accounting course that covers basic accounting topics. 2 CrHrs. Pre-Req: None.

**ACC1400A - Financial Accounting I** - Fundamentals of accounting theory, concepts and practices are covered. ACC 1400A includes the basic structure of accounting and accounting as it is used as a basis of business decisions including the recording of changes in financial condition and measuring business income. Students are introduced to the concept of an accounting system and accounting principles as they relate to cash, receivables, inventories, fixed assets, depreciation, intangible assets, current liabilities, long-term liabilities, equity, revenues and expense recognition, financial statement preparation, and financial statement analysis. 6 CrHrs. Pre-Req: COMPASS or MTH0970A. Offered F, W.

**ACC1410A - Financial Accounting II** - Financial Accounting II is an expansion of the fundamental accounting theory of Financial Accounting I. Alternative accounting principles as they relate to select assets and liabilities and alternative methods for recording and reporting business transactions are introduced. Students are introduced to special journals, voucher systems, control of purchase discounts, periodic inventory systems, estimation of inventory values, investment in debt and equity securities, exchange of long-term assets, payroll records and procedures, income taxes, note and bond payable alternatives, leases, pensions and statement of cash flow reporting alternatives. 4 CrHrs. Pre-Req: ACC1400A. Offered W, Sp.

**ACC2000A - Microcomputer Applications In Acctg** - Students will learn to use the computer as a tool for keeping accounting records and presenting accounting data through the use of computerized accounting simulations. Instruction includes a combination of classroom and lab activities. 4 CrHrs. Pre-Req: ACC1410A. Offered Sp.

**ACC2210A - Intermediate Accounting I** - This course is a review of financial reporting and the accounting cycle. Students will also explore theory and applications in the preparation of income statements, balance sheets, and the statement of cash flows. This course also covers theories and applications of earnings management, cash, and receivables. The course includes a review and analysis of generally accepted accounting principles, and compares acceptable alternatives and other proposals. 4 CrHrs. Pre-Req: ACC1410A.. Offered F.

**ACC2220A - Intermediate Accounting II** - This course is a continuation of Intermediate Accounting I. The course includes the study of additional balance sheet items, primarily inventory, intangible assets, debt and equity financing, investing activities of business organizations, and acquisition, utilization, and retirement of non-current assets. 4 CrHrs. Pre-Req: ACC2210A. Offered W.

**ACC2300A - Federal Taxation** - This course emphasizes the preparation of federal income tax returns for individuals. Topics include gross income and exemptions, standard and itemized deductions, capital gains and losses, self-employment returns, credits, and special taxes. 4 CrHrs. Pre-Req: ACC1410A. Offered W.

**ACC2400A - Auditing** - This course introduces and describes the rapidly changing audit function as it relates to the external auditor. Topics include the professional responsibilities of auditors, audit tasks, planning and designing an audit, internal control procedures, control and substantive testing, and audit reporting. 4 CrHrs. Pre-Req: ACC2210A. Offered W.

**ACC2500A - Non Profit Organizational Accounting** - This course introduces accounting practices of not-for-profit organizations. Topics covered include fund accounting and the preparation, analysis, and interpretation of financial statements in a nonprofit organization. 4 CrHrs. Pre-Req: ACC1410A. Offered F.

**ACC2600A - Payroll Accounting** - This course covers the laws that affect employers in their payroll operations and the procedures used in a typical payroll accounting system. A computerized payroll simulation will be used in the course. 2 CrHrs. Pre-Req: ACC1410A. Offered Sp.

**ACC2620A - Advanced Taxation** - This course covers the preparation of various tax forms, including federal corporate tax forms, Ohio individual income tax

forms, the Ohio Commercial Activity Tax form, franchise tax forms, and property tax forms. 2 CrHrs. Pre-Req: ACC2300A. Offered Sp.

**ACC2700A - Managerial Accounting** - This course presents fundamental managerial accounting concepts and objectives, and cost data accumulation procedures using job order and process costing. Other topics include cost-volume-profit analysis, budgeting, performance evaluations, differential analysis and product pricing, and capital investment analysis. 4 CrHrs. Pre-Req: ACC 1400A and BUS 1100A. Offered F.

**ACC2750A - ACAT Certification Preparation** - This capstone course integrates course materials presented throughout the Accounting Technology curriculum. Topics include financial accounting, taxation, business law and ethics, auditing, and managerial accounting. CrHrs. 4 Pre-Req: ACC2220A, ACC2300A and ACC2400A, ACC2700A, BUS2150A, or approval. Offered Sp.

**ACC2980A - Special Topics** - This special course in the area of accounting is designed to give groups of students the opportunity to pursue studies not otherwise offered in the degree program. Graded S/U. 1-4 CrHrs. Pre-Req: Department approval.

**ACC2990A - Individual Investigation** - ACC2990A is an independent investigation of an appropriate problem in the student's major field of interest. Graded S/U. 1-4 CrHrs. Pre-Req: Department Approval.

**AET1010A - Intro to Alternative Energy** - "This course provides an introduction to alternative energy resources and a scientific examination of their technology and application. An overview of conventional energy sources will be taught first to make students aware of their problems. Then the course will focus on alternate energy sources such as solar, wind, biomass, geothermal, hydrogen, geothermal, and more. Other topics explored are alternative energy generation, storage, transportation, and conservation. Students will learn scientific terms and concepts of the supply, use, and efficiency of energy systems. 4 CrHrs. Pre-Req: None

**AET1050A - Turbine Technology I** - This course provides an introduction to wind power engineering. Wind physics and geographic considerations will be studied as the basis of site assessment and sizing the wind plant. An overview of wind turbines will be given in various aspects including the structure, types, aerodynamics and efficiency. Then the class will focus on the components of the turbines such as nacelle, generator, gearbox and controllers. The operation of the turbine, for example, the yaw and pitch adjustment, will be explained. Finally, different types of wind plant like grid-tie and grid-off will be studied. Hands-on labs will be integrated into the course to help students better understand the turbine and components. 4 CrHrs. Pre-Req: None

**AET1070A - Turbine Technology II** - This course is a continuation of the Turbine Technology I. It is a hands-on based course to provide real experience of site assessment, turbine troubleshooting, tower setup and electric connection. The students will first learn how to operate the measuring tools involved in the site selection. Then the procedure of the turbine installation will be explained, including the site preparation, turbine assembly and tower setup. The students will also learn how to read electrical diagram and make electric connection and testing. The relevant NEC codes and wind safety will be introduced. Hands-on labs will be integrated into the course to help students better understand the turbine installation and maintenance. 4 CrHrs. Pre-Req: AET1050A

**AET2070A - PV Cell Installation Technology** - The course will provide the student with a basic knowledge of solar photovoltaic (PV) cells, modules, and system components, PV system design, estimation, and code requirements, and working with solar conversion equipment. Hands-on training will include site analysis, mechanical and electrical design based on specific site conditions, site specific safety issues and construction issues, using tools and testing equipment, best practice construction skills, and specific site code and inspection issues. 4 CrHrs. Pre-Req: AET2010A or approval

**ART2050Z - Beginning Drawing** - An introduction to basic freehand drawing, exploration of a range of drawing methods, media, concepts; emphasis on drawing from observation. 5 CrHrs. Pre-Req: Interactive Media Major.

**ART2060Z - Visual Studies 2 Dimensional Art** - Basic concepts of two-dimensional art dealing with visual structure, process, content, and invention. 5 CrHrs. Pre-Req: Interactive Media Major.

**ART2070Z - Visual Studies 3 Dimensional Art** - Basic concepts of three dimensional art dealing with the organization of space and form, using a variety of materials, processes, tools. 5 CrHrs. Pre-Req: ART2060A.

**ART2080Z - 4D Art Real and Recorded Time** - Introduction to basic concepts of real time and recorded time-based artworks using a variety of processes and media. 3 CrHrs. Pre-Req: ART2070A.

**ART3000Z - Intro To Photography: Digital Camera** - Introduction to photographic theory, practice, and aesthetics with image production and critique. Students must supply adjustable digital camera (4 mp or greater), and processing of prints. 5 CrHrs. Pre-Req: Interactive Media Major.

**ART3500Z - Digital Image Manipulation I** - Introduction to creating and manipulating graphic images on Macintosh using Photoshop, Painter; includes input/output of student work as applies to art students. 5 CrHrs. Pre-Req: Interactive Media Major.

**BIO1000A - General Biology** - This course will deal with scientific theory, chemistry, the cell, energy, genetics, and basic anatomy and physiology. This course has a laboratory component which emphasizes the principles of the lectures. 5 CrHrs. Pre-Req: SCI1010A or equivalent. This course is on the Ohio Transfer Module. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**BPT1300B - Reading Technical Prints** - This course is designed for those who have little knowledge or understanding of engineering drawings of mechanical, electrical or hydraulic systems. Students will learn to interpret both design and shop drawings. Some basic sketching will be taught as related to blueprints. In addition, students will learn geometric dimensioning and tolerancing which is a state-of-the-art technical drawing language that provides students with better tools for communicating design requirements to manufacturing. 3 CrHrs. Pre-Req: None.

**BTI1010A - Level One Electrician** - Level One Electrician is a course designed to give the students a comprehensive overview of the Electrical Trade as well as overall grounding in electrical fundamentals, National Electrical Codes, electrical safety issues, applied mathematics, and many other details involved in becoming an electrician. The course emphasizes hands-on activities in electrical labs that simulate real world problems and projects. 16 CrHrs. Pre-Req: None

#### **BUS0000A - Business Elective**

**BUS1010A - Business English Skills** - This course will refine basic English skills that relate to business through the use of realistic learning materials. Proofreading, punctuation, grammar, spelling, capitalization, vocabulary, and sentence structure are emphasized and reinforced. 4 CrHrs. Pre-Req: OIS1240A or concurrent enrollment. Offered W.

**BUS1100A - Business Mathematics** - This course covers the math used in a business environment. Topics include percentages, markups and markdowns, present value techniques, annuities, discounts, interest, amortized loans, and home mortgages. 4 CrHrs. Pre-Req: Placement test or MTH0970A. Offered: F, W, Sp, Su.

**BUS1150A - Statistics** - This course examines the fundamental principles of statistics with an emphasis on practical applications. Topics include problem identification and diagnosis, data collection and presentation, probability concepts, statistical inferences, measures of central tendency and dispersion, sampling, and hypothesis testing. 4 CrHrs. Pre-Req: MTH1010A, MTH1015A, MTH1110B, or concurrent enrollment and OIS1240A. Offered Sp.

**BUS2100A - Ethics** - This course focuses on identifying and analyzing ethical and unethical workplace behavior. The application of moral philosophies and the ethical problem solving model are used to demonstrate how ethical dilemmas can be resolved. 4 CrHrs. Pre-Req: None. Offered W, Sp.

**BUS2150A - Legal Environment of Business** - Legal Environment of Business provides an overview of law and its relationship to business. Topics include the Foundations, the Public and International Environment, the Commercial Environment, the Business Environment, the Employment Environment, and the Regulatory Environment. This is practical law that every business person should know. Topical discussions apply the readings to everyday situations. Written assignments complement the text and require outside research. 5 CrHrs. Pre-Req: None. Offered: F, W, Sp, Su.

**BUS2890A - Cooperative Education Preparation** - The purpose of this course is to help students transition from the classroom to the world of work. This is accomplished through assessing and integrating the competencies developed in previous coursework and demonstrating ability to apply the skills in the workplace. Each student develops a career plan and timeline, conducts a job search and uses selection strategies, practices interview techniques, improves

upon personal and professional communications, and evaluates the cooperative education experience. 2 CrHrs. Pre-Req: ENG1090A and 32 hours of completed coursework. Offered: F, W, Sp.

**BUS2900A - Co-Operative Education Experience** - "This course places the student in a work setting related to his or her major field of study. The student is engaged in practical application of knowledge and skills acquired in the classroom as carried out in a professional work environment. Co-op students receive college credit for structured, on-the-job learning experiences related to their academic field. Placement within a work setting may require a criminal background check facilitated by the Ohio Bureau of criminal Investigation and identification in accordance with Senate Bill 38 and House Bill 160. Additionally, submission for a credit check and/or drug screening may be requested by the company in accordance with its policies. Graded S/U. 2 CrHrs. Pre-Req: BUS2890A. Offered: F, W, Sp, Su.

**BUS2980A - Special Topics** - This is a special course in the area of business designed to give groups of students the opportunity to pursue studies not otherwise offered in the degree program. Graded on a S/U basis. 1-4 CrHrs. Pre-Req: Department approval.

**BUS2990A - Individual Investigation** - BUS2990A is an independent investigation of an appropriate problem in the student's major field of interest. No more than four CrHrs. will apply toward graduation. Graded on a S/U basis. 1-4 CrHrs. Pre-Req: Department approval.

#### **CHM0000A - Chemistry Elective - None**

**CHM1000A - General and Biological Chemistry** - This elementary chemical concepts class is designed primarily for Medical Laboratory Science students. Students will first learn about chemical bonding, mixtures, acids, and bases. Then students will explore the structure and function of various types of organic compounds such as hydrocarbons, carbohydrates, lipids, proteins, and nucleic acids. 5 CrHrs. [4 hrs. class, 3 hrs. lab]. Pre-Req: SCI1010A or equivalent, or department approval.

**CHM1200A - Chemistry I** - This course is the first quarter of a two-quarter course in general chemistry appropriate for students interested in pursuing careers in science, medicine and engineering. Topics include matter and measurement; structures of atoms, molecules and ions; inorganic chemical nomenclature; chemical reactions and stoichiometry, acid-base and oxidation-reduction reactions and solution stoichiometry; gases; thermochemistry; electronic structure; periodic properties of the elements, chemical bonding, molecular geometry and chemical bonding theories. Laboratory exercises reinforce basic principles and emphasize analytical techniques. Pre-Req: high school Chemistry or SCI 1010A. This course is on the TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio. Students need to take CHM1200A and CHM1215A for Chemistry I TAG transfer.

**CHM1215A - CHEMISTRY II** - This course is the second quarter of a two-quarter course in general chemistry appropriate for students interested in pursuing careers in science, medicine and engineering. Topics include gases and the gas laws; intermolecular forces, liquids and solids; properties of solutions; chemical kinetics; chemical equilibrium, acid-base equilibria and aspects of aqueous equilibria. Laboratory exercises reinforce basic principles and emphasize analytical techniques. Pre-Req: CHM1200A. This course is on the TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio. Students need to take CHM1200A and CHM1215A for Chemistry I TAG transfer.

#### **CIT0000A - IT Elective - None**

**CIT1000A - Business On The Internet** - This overview course will introduce the concepts, language, and components of e-commerce. Students will explore relevant sites to evaluate e-commerce technologies and investigate current issues. Classroom discussions and activities will include marketing issues, planning and development, payment processing, security, and customer service. 2 CrHrs. Pre-Req: OIS1200A or concurrent or successful completion of the Technology Skills Test.

**CIT1050A - Computer Crime for Law Enforcement** - The course is a study of the techniques employed by law enforcement investigators to recognize and investigate crimes involving computers and other electronic devices. Topics include criminals, crimes, laws, procedures used at crime scenes, search warrants, writing search warrants, recognizing electronic evidence, seizing computers, and the laws of search and seizure. Additional topics included in this course are First Amendment rights as they pertain to computers and dealing with and arresting suspects involved in the violation of computer crime laws. 2 CrHrs. Pre-Req: None.

**CIT1300A - Information Technology Essentials A+ -** A+ Hardware Preparation is designed to assist the student desiring to pass the A+ Essentials Exam, the first exam in becoming a certified technician. In this course, the student will be exposed to the various hardware components within and attached to the computer. Troubleshooting will be a primary component as the student learns the basics of computer design, construction and maintenance. Prior to taking the A+ Essentials exam students should also take CIT1500 (MCSE I) which covers the software components of the exam. 4 CrHrs. Pre-Req: OIS1200A or successful completion of the Technology Skills Test. Offered: F.

**CIT1400A - Fundamentals of Network Security** - Students completing this course will understand the basic concepts of network security. CIT1400A covers both current and emerging security concerns and concepts. Topics include hardware- and software-based security threat detection and identification, and preventative security measures. 4 CrHrs. Pre-Req: CIT1500A. Offered: W.

**CIT1500A - Supporting a Microsoft Client OS MCSE I** - This course covers the set up and support of current Microsoft® Windows Desktop Operating Systems and provides an introduction to many key networking and security concepts. CIT1500A will also help prepare individuals to take the A+ Essentials exam and help toward studying one of the Microsoft® Certified Technology Specialist [MCTS] examinations, which may be used toward becoming a Microsoft® Certified IT Professional [MCITP]. 4 CrHrs. Pre-Req: CIT1300A. Offered: W.

**CIT1700A - Introduction to Visual Programming** - In this course, the student will learn the basics of visual programming and design. In addition, some advanced programming techniques will be introduced. The logical structure common to computer programs will be discussed. Students will learn to write, test, and debug applications. Screen and application design concepts will be covered. 4 CrHrs. Pre-Req: OIS1200A or successful completion of the Technology Skills Test. Offered: W.

**CIT2200A - Supporting a Microsoft Svr OS MSCE II** - In this course, students learn to set up and support a Windows Server operating system as well as several key roles on those servers. This course will also help prepare individuals to take one of the Microsoft Technology Specialist examinations, which may be used toward becoming a Microsoft® Certified IT Professional [MCITP]. 4 CrHrs. Pre-Req: CIT1500A. Offered: Sp.

**CIT2250A - Network Infrastructure/MCSE III** - This course will teach students to install, configure, manage, and support a network infrastructure that uses Microsoft® Windows Server products. CIT2250A will also help prepare individuals to take one of the Microsoft® Certified Technology Specialist [MCTS] examinations, which may be used toward becoming a Microsoft® Certified IT Professional [MCITP]. 4 CrHrs. Pre-Req: CIT2200A. Offered: F.

**CIT2300A - Implementing Active Directory/MCSE IV** - This course will teach students to install, configure, and administer Microsoft® Windows Active Directory™ directory services. Students will also gain understanding and skills in working with the Group Policy tasks needed to manage users and computers. CIT2300A will also help prepare individuals to take one of the Microsoft® Certified Technology Specialist [MCTS] examinations, which may be used toward the Microsoft® Certified Systems Engineer [MCSE]. 4 CrHrs. Pre-Req: CIT2200A. Offered: Sp.

**CIT2350A - MCSE V** - Students will gain the knowledge and skills needed to develop an enterprise network using Microsoft® Windows networking services. CIT2350A will also help prepare individuals to take the Microsoft® Certified Professional examination, which may be used toward the Microsoft® Certified Systems Engineer [MCSE]. 4 CrHrs. Pre-Req: CIT2200A.

**CIT2400A - MCSE MCSA Test Preparation** - This course is designed to assist the student in reviewing material in preparation for a current MCSE/MCSA exam. Hands-on lab activities will be utilized to enable the students to apply the concepts being discussed. As part of the course, the student will sit for the MCSA exam. 2 CrHrs. Pre-Req: CIT2200A.

**CIT2500A - Intermediate Prog with Visual Studio** - Building on skills learned in CIT1700A, this course guides the student in the use of additional programming techniques. Students will learn to create computer software that utilizes data access and security techniques. Building effective user interfaces will also be covered. 4 CrHrs. Pre-Req: CIT1700A. Offered: Sp.

**CIT2520A - Dev Database with Microsoft SQL Server** - Students completing this course will be able to design databases using Microsoft® SQL Server. Skills developed in this course will include building a normalized database, and designing queries and database security. CIT2520A will help the student prepare to take the Microsoft® Certified Technology Specialist [MCTS] exam. CrHrs. 4 Pre-Req: CIT2500A. Offered: F.

**CIT2530A - Creating XML Web Srv** - Students will learn how to design and implement XML Web Services as part of a software solution. This course will help the student to prepare to take the Microsoft® Certified Professional examination, which may be used toward the Microsoft® Certified Application Developer [MCAD] certification. 4 CrHrs. Pre-Req: CIT2500A.

**CIT2540B - ASP.NET Web Application Development** - In this course, students will review techniques for implementing Websites using ASP.NET technology. Students will design and create Web applications that include Web forms, user management, and database access. CrHrs. 4 Pre-Req: CIT1700A. Offered: Sp.

**CIT2550A - Object-Oriented Analysis and Design** - This course covers object-oriented analysis techniques and design patterns. Students will learn the principles behind the patterns and learn to identify when and how specific patterns should be implemented in software design. 4 CrHrs. Pre-Req: CIT1700A. Offered: F.

**CIT2560A - C# Programming** - In this course, students learn C# programming techniques. Students will create programs that utilize decision-making, iteration, and database access logic. Common object-oriented design techniques will be utilized. Offered: W.

**CIT2591A - MCTS Test Preparation** - This course is designed to assist the student in reviewing material in preparation for a current MCTS exam. Hands-on lab activities will be included to enable the student to apply the concepts being discussed. 4 CrHrs. Pre-Req: CIT2500A. Offered: W.

**CIT2610A - Network Fundamentals/Cisco I** - This course focuses on network terminology, protocols, local-area networks [LANs], wide-area networks [WANs], the Open Systems Interconnection [OSI] and Transport Connection Protocol/Internet Protocol [TCP/IP] models, cabling and cabling tools, routers and switches, addressing, and network standards. It is recommended that students take the Basic Skills Assessment [COMPASS] and successfully complete all recommended brush-up courses before enrolling in this class. CIT2610A is the first of four courses that will prepare students to take the Cisco® Certified Network Associate [CCNA] exam or the first of two courses that will prepare students to take the Cisco® Certified Entry Network Technician [CCNET] exam. 4 CrHrs. Pre-Req: OIS1200A or concurrent or successful completion of the Technology Skills Test. Offered: Sp.

**CIT2620A - Routing/Cisco II** - This course focuses on initial router configuration, Cisco® IOS software, routing protocols and configuration. Students will develop skills in basic router configuration using RIP, EIGRP, and OSPF. CIT2620A is the second of four courses that will prepare students to take the Cisco® Certified Network Associate [CCNA] exam, or the second of two courses that will prepare students to take the Cisco® Certified Entry Network Technician [CCNET] exam. 4 CrHrs. Pre-Req: CIT2610A. Offered: F.

**CIT2630A - Switching & Wireless/Cisco III** - This course focuses on using switches and wireless in the network. Students will learn about wireless standards and concepts and how to configure switches in the network. They will also learn about wireless standards and configure wireless access in the network. CIT2630A is the third of four courses that will prepare students to take the Cisco® Certified Network Associate [CCNA] exam. 4 CrHrs. Pre-Req: CIT2620A. Offered: W.

**CIT2640A - WAN Technologies/Cisco IV** - This course focuses on WAN access and ACL usage for security. This course will also cover using NAT and DHCP in the network for address management. CIT2640A is the last of four courses that will prepare students to take the Cisco® Certified Network Associate [CCNA] exam. 4 CrHrs. Pre-Req: CIT2620A. Offered: Sp.

**CIT2650A - Cisco V** - This course teaches students to configure, maintain, and scale routed networks. VLSM, private addressing, and NAT will teach students more efficient use of IP addresses. Advanced routing protocols [RIPv2, EIGRP, Multi-area OSPF, IS-IS, and BGP] will be taught. This course will also cover route filtering and route redistribution. 4 CrHrs. Pre-Req: CIT2640A or CCNA certification.

**CIT2690A - CCNA Test Preparation** - This course is designed to assist the student in reviewing material in preparation for the current Cisco® Certified Network Associate [CCNA] INTRO certification exam. Hands-on lab activities will be utilized to enable the student to apply the concepts being discussed. As part of the course, the student will sit for the CCNA examination. Students have the option of sitting for one exam [the first of two] that covers a portion of the CCNA materials, or another single test which covers all material. 2 CrHrs. Pre-Req: CIT2620A.

**CIT2750A - Information Technology Capstone** - This course will consist of a project assigned by the instructor or a project proposed by the student and approved by the instructor. Students will work independently to research, develop, and complete the project. Projects utilize the skills learned in previous IT coursework. Graded on a S/U basis. 4 CrHrs. Pre-Req: IT Major and over 50 hours of coursework. Offered: Sp.

**CIT2980A - Special Topics** - This course presents a special project in the area of Information Technologies designed to give groups of students the opportunity to pursue studies not otherwise offered in the degree program. 1-5 CrHrs. repeatable to a maximum of 10 CrHrs. Graded S/U. Pre-Req: Department approval.

**CIT2990A - Individual Investigation** - CIT2990A is an independent investigation of an appropriate problem in the student's major field of interest. No more than five CrHrs. will apply toward graduation. Graded S/U. 1-5 CrHrs. Pre-Req: Department approval.

**CJA2810A - Law Enforcement I** - This course is an orientation of the Ohio Peace Officers Training Council's Basic Peace Officer's Academy [OPOTA]. Students in this course will receive OPOTA instruction in Administration, Ethics and Professionalism, and the role of an American Police Officer will be examined. Students must not have had a felony conviction, drugs of abuse conviction, or a domestic violence conviction to be eligible for admission into the Marion Law Enforcement Academy. 2 CrHrs. Pre-Req: Approval. Offered: W.

**CJA2820A - Law Enforcement II** - This is an Ohio Peace Officer Training Academy [OPOTA] certified course covering Legal instruction. The Criminal Law will be examined using the Ohio Revised Code and related to real life scenarios. Laws of arrest, search and seizure, civil liability and use of force, and rules of evidence will be examined. 5 CrHrs. Pre-Req: Approval. Offered: W.

**CJA2830A - Law Enforcement III** - This is an Ohio Peace Officer Training Academy [OPOTA] certified course covering handgun and shotgun training. Students will be taught nomenclature, correct stance and grip, and safety procedures. Civil liability and use of force will also be covered. Pistols and shotguns are furnished by the Criminal Justice Program. Students will be graded S/U as determined by OPOTA standards. 5 CrHrs. Pre-Req: Approval. Offered: W.

**CJA2840B - Law Enforcement IV** - This is an Ohio Peace Officer Training Academy [OPOTA] certified course covering Human Relations. Topics will include: Communication with the public, Domestic Violence, Crisis Intervention, Child Abuse and Neglect, Victim Rights, Crime Prevention, and Understanding Cultural Differences. 6 CrHrs. Pre-Req: Approval. Offered: W.

**CJA2850B - Law Enforcement V** - This is an Ohio Peace Officer Training Academy [OPOTA] certified course covering the following topics: Defensive Driving, First Aid, Patrol Stops and Building Searches, and Civil Disorders. 6 CrHrs. Pre-Req: Approval. Offered: Sp.

**CJA2860B - Law Enforcement VI** - This is an Ohio Peace Officer Training Academy [OPOTA] certified course covering the following topics: Traffic, which includes Traffic accident investigation, Motor Vehicle Offenses, Traffic Tickets, and Alcohol Detection, Apprehension, and Prosecution. This course also includes: Crime Scene Investigation, Photography, Arson, Ohio Drug Laws, Interviewing and Interrogation techniques, report writing, and Search Warrants. 6 CrHrs. Pre-Req: Approval. Offered: Sp.

**CJA2870A - Law Enforcement VII** - This is an Ohio Peace Officer Training Academy [OPOTA] certified course covering Defensive Tactics. Instruction will also be given in areas such as ground fighting, proper arrest, search, handcuffing, Police Baton use, and transporting prisoners. Civil Liability and use of force will also be discussed. This course is graded on a S/U basis. 5 CrHrs. Pre-Req: Approval. Offered: Sp.

**CRJ0000A - CJ Elective** - None

**CRJ1000A - Introduction to Criminal Justice** - This course is an overview of Criminal Justice Careers. Topics include federal, state, and local law enforcement agencies, corrections, and court systems. Students will also explore the role of the Homeland Security agency. CRJ1000A includes an overview of the jurisdiction, function, and the areas of enforcement of each agency. 4 CrHrs. Pre-Req: None. Offered: F.

**CRJ1150A - Introduction to Private Security** - This course is a study of the development, philosophy, responsibility, and functions of private and homeland security. CRJ1150A includes a study of the roles and requirements of licensed private investigation, private security principles, the legal authority of private security, and career opportunities. The course also includes information about applying private security principles to everyday life. CrHrs. 4 Pre-Req: None.

**CRJ1200A - Interviewing & Interrogation** - This course is a study and practice of the art of communications as it relates to the field of Criminal Justice. Students will learn the principles of Verbal Judo and the art of persuasion, and will study the art of gaining the truth through successfully performing interviews and interrogation. The course also covers written communication skills related to criminal justice. 4 CrHrs. Pre-Req: None. Offered: W.

**CRJ1400A - Constitutional Law** - This course provides a thorough study of the constitutional basis for substantive and procedural law, with an emphasis is on the 1st, 4th, 5th, 6th, 7th, 8th, and 14th Amendments of the U.S. Constitution. Cases discussed in class will involve current legal decisions affecting the role of the criminal justice profession to include all components of the criminal justice system. 4 CrHrs. Pre-Req: None. Offered: Sp.

**CRJ1500A - Criminology** - This course is an in-depth study of the nature of crime, its causes, and crime statistics. The course includes information about violent crime, property crime, morality crime, and organized crime. The course also includes a study of ways to prevent crime. CrHrs. 4 Pre-Req: None. Offered: Sp.

**CRJ1600A - Introduction to Corrections** - This course provides a broad view of the American criminal justice system, and follows individuals from arrest and conviction to incarceration and parole. CRJ1600A surveys current philosophies and operations in/at all levels of modern corrections supported by an overview of relevant history. The course also provides the student with an in depth study of a wide range of court decisions that affect or have affected the offender and due process as it applies to the institution, parole, probation, probation hearings, and classification procedure. 4 CrHrs. Pre-Req: None. Offered: Sp.

**CRJ1650A - Gangs & Terrorism** - This course is designed to give the student a basic understanding of both domestic and international terrorism and its impact on the American society and the world. Students will discuss the evolution of these groups and what strategies and tactics are being employed by both the military and law enforcement to combat and contain these terrorist organizations. 4 CrHrs. Pre-Req: None. Offered: F.

**CRJ1800A - Legal Issues In Corrections** - This course is an examination of the statutes and court decisions related to corrections. Topics include current legal issues and their impact on adult and juvenile procedures. 4 CrHrs. Pre-Req: None.

**CRJ2050B - Criminal Investigations** - This course provides a basic study of the theory and practice of crime scene reconstruction with emphasis placed on criminal evidence processing. Further, the student will examine procedures used by law enforcement agencies and crime labs in crime scene processing to include investigative techniques needed for special criminal offenses involving violent offenses and/or property crimes. This course introduces the student to basic forensic procedures used by law enforcement during the investigative process. The course includes topics in basic biology and chemistry. 4 CrHrs. Pre-Req: Department Approval. Offered: W.

**CRJ2100A - Physical Conditioning** - This course meets the Ohio Peace Officers Training Academy [30 hours] of optional requirements. This is a physically demanding course that includes 30 minutes of strength training and 30 minutes of cardio training per class session. There is an emphasis on assessing the student's current fitness level and developing a plan to maintain a fitness lifestyle. NOTE: All Academy students must pass the timed run, push-ups, and sit-ups requirement before taking the state certification exam. CrHrs. 2 Pre-Req: None. Offered: Sp.

**CRJ2150A – Criminalistics** - This course covers advanced techniques in the collection, identification, preservation, and transportation of physical evidence, as well as crime laboratory capabilities and limitations. A major portion of the course centers on discussions and labs involving common items of physical evidence encountered at crime scenes. The course includes descriptions of forensic analysis, techniques for the proper collection and preservation of evidence, and Biology concepts relating to the analysis of physical evidence. An introduction to fingerprinting and general classification of fingerprints, ballistics and firearms identification, photography, DNA, energy and matter as it applies to evidence, the human body, including typing and recognizing human blood, and other techniques necessary for law enforcement to successfully investigate and prosecute major crimes are included. 4 CrHrs. Pre-Req: CRJ2050A. Offered: Sp.

**CRJ2200A - Drug & Narcotics** - This course presents a study of the social and physical implications of legal and illegal drugs, drug abuse, the drug trade, and the domestic and foreign organizations involved in the trafficking of illegal narcotics and the effects these drugs have on society and law enforcement agencies. Students will learn how to recognize legal and illegal drugs and how to chemically/microscopically test legal and illegal drugs to identify the drug in question. 4 CrHrs. Pre-Req: CRJ2050B or concurrent enrollment. Offered: W.

**CRJ2250A - Criminal Law** - This course is a comprehensive study of the Ohio Revised Code. Students will learn to identify elements of offenses and apply these elements to hypothetical situations, enabling the student to apply the law and determine appropriate charges. Other topics include procedural law, courtroom testimony, and the laws governing Ohio's criminal justice system. 4 CrHrs. Pre-Req: None. Offered: F.

**CRJ2300A - Defensive Tactics** - This self-defense course introduces students to the basic techniques used in defending oneself against an attack. Students learn various take-down moves, pressure points, and handcuffing techniques. Students will also learn the use-of-force continuum and proper procedures for arresting, searching, and transporting prisoners. Students in this class may be exposed to the chemical mace. CRJ2300A is graded on a S/U basis. CrHrs. 3 Pre-Req: None. Offered: Sp.

**CRJ2500A - Criminal Photography** - This course is designed to give the student a working knowledge of digital photography and how it can be applied to the criminal justice system. Students will learn how to apply digital photography to processing crime scenes, accident investigations, identification photos, surveillance, and other areas of law enforcement where digital photography can be used as an effective tool in combating crime. 4 CrHrs. Pre-Req: CRJ2050B or CRJ2150A. Offered: Sp.

**CRJ2900A - CJ Internship** - This is a structured learning experience in which students receive college credit for on-the-job learning experiences related to a criminal justice career interest. The 100-hour internship experience will be jointly supervised by a member of the faculty and a designated person at the agency involved. This course is graded on a S/U basis. CrHrs. 2 Pre-Req: 32 CrHrs. and department approval. Offered: W, Sp.

**CRJ2980A - Special Topics** - This special course in the area of Criminal Justice is designed to give groups of students the opportunity to pursue studies not otherwise offered in the degree program. Graded S/U. 1-4 CrHrs. Pre-Req: Department approval.

**CRJ2990A - Individual Investigation** - CRJ2990A is an independent investigation of an appropriate problem in the student's major field of interest. No more than four CrHrs. will apply toward graduation. Graded S/U. 1-4 CrHrs. Pre-Req: Department approval.

**ECN2000A – Microeconomics** - Students in ECN2000A will gain an understanding of the basic principles that underlie how people behave in today's economic world. Emphasis is placed on analyzing the individual's reaction to the price of a product or service, the issues of supply and demand, the level of competition for a business and its owner[s], the overall use of resources [natural resources, labor, machines, facilities, etc.], and the overall effect/impact of the government. This course is designed to match the curriculum used at other Ohio colleges and universities. However, a bonus introduction to the U.S. stock market is included here at MTC. 4 CrHrs. Pre-Req: None. This course is on the Ohio Transfer Module and TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**ECN2010A – Macroeconomics** - An important and intriguing look at the overall U.S. economic system is the basis for this course. Students will study the background of economic forces that affect all citizens. U.S. economic history, the modern U.S. banking system, government spending, the Federal Reserve, GDP, unemployment, and inflation will be topics covered, as well as other vital aspects

of the American economy. ECN2010A also takes a current events focus, so as-it-happens economic and business news will be used to connect real-world events to course materials. ECN2010A is designed to match the curriculum of other Ohio colleges and universities. 4 CrHrs. Pre-Req: None. This course is on the Ohio Transfer Module and TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.,

**EET0000A - Electrical Engineering Elective** - EET course outside of program requirements as allowed by academic plan.

**EET1030A - Industrial Electricity** - This course begins with an exploration into the existence and nature of static and dynamic electricity. The student is then introduced to basic electrical relationships such as Ohm's Law and Watt's Law and how these laws help the student to analyze basic circuits. Series and parallel circuit networks are examined as well as more complex combination series/parallel circuits. The course then moves from DC (direct current) circuits to AC (alternating current) circuits. Discrete components respond differently in AC, and these differences are the focus of the last elements of this course. 4 CrHrs. Pre-Req: Compass Algebra Score of 41 or higher or MTH0990A.

**EET1100B - Circuit Analysis I** - After reviewing Ohm's Law and basic circuit theory learned in previous courses, this course will focus on analysis methods for more complex circuits. Circuit analyses such as maximum power transfer, delta-wye conversion, mesh analysis, and Thevenin and Norton circuits will be studied. As an introduction to alternating current analysis, the properties and performance of capacitors and inductors are studied in DC circuits. 3 CrHrs. 4 contact hours. Pre-Req: PHY1220A or concurrent or EET1030A. Corequisite: EET1101A

**EET1101A - Circuit Analysis I – Lab** This course supports topics and concepts covered in EET1100B focusing on the verification of DC circuit dynamics by means of laboratory exercises and experiments. Series, parallel, and series/parallel circuits will be analyzed. Capacitors and inductors in direct current circuits will be studied. Labs will be first demonstrated to students by the instructor to provide efficient directions that focus on the important components in each lab experiment. Students will then perform the labs and will be required to keep a comprehensive notebook of all data and reports. In these reports, students will be required to show how the data supports each concept covered in each lab. 1 CrHrs. Corequisite: EET1100B.

**EET1110B - Circuit Analysis II** - This course continues studies in alternating current circuits with a focus on RC, RL, and RLC circuits. Frequency response dynamics such as resonance, high-pass, and other types of filtering, and critical frequencies are demonstrated in labs and charted using Bode plots. Phase relationships between voltage and current, and the reactive elements of alternating current circuits that contribute to industrial power factors are examined in detail. Students are taught methods of monitoring and controlling industrial power factors in multi-phase power systems. Circuit analysis methods such as Superposition and Thevenin's theorem are now applied to AC circuits and monitored with oscilloscopes. This course provides the student with an understanding of AC circuit dynamics that will be seen in later studies of industrial and electronic control applications. 3 CrHrs. Pre-Req: EET1100B

**EET1111A - Circuit Analysis II Lab** - This course supports topics and concepts covered in EET1110B reinforcing the dynamics of AC circuits by means of laboratory exercises and experiments. Labs will be first demonstrated to students by the instructor to provide efficient directions that focus on the important components in each lab experiment. Students will then perform the labs and will be required to keep a comprehensive notebook of all data and reports. In these reports, students will be required to show how the data supports each concept covered in each lab. 1 CrHrs. Corequisite: EET1110B.

**EET2010B - Electronic Devices and Circuits** - This course introduces the student to basic semiconductor electronic devices. Diodes and transistors are studied. Power supply circuitry functions and application circuits of various other diodes are studied. Studies then move to basic bi-polar (BJT) transistors and circuit applications. Field effect transistors (FET) and other linear devices are studied. Oscilloscopes and other types of test equipment are used in lab exercises to support the theories taught. 3 CrHrs. Pre-Req: EET1110B.

**EET2020B - Electrical Distribution Systems** - This course introduces industrial power distribution techniques and devices and how to properly interpret and use pertinent sections of the National Electrical Code. It includes the study and selection of conductors required for main trunk and branch circuits, service entrances, and grounding, with a focus on types of loads such as motor loads, lighting loads, and utility circuit loads and the required protective devices. 2 CrHrs. Pre-Req: EET2300C

**EET2030B - Linear Integrated Circuits & Process Cnl** - This course begins with a brief review of amplifiers, field effect transistors, SCR's and other integrated circuits. The review concludes with comprehensive lab exercises involving these devices. The course then introduces the operation, application, and troubleshooting of larger scale linear integrated circuits as they are applied in control circuit applications. Differential amplifiers, operational amplifiers, and instrumentation amplifiers are featured in representative data acquisition and process control circuit fundamentals. Circuitry for PID control loops are studied and tested in process control lab experiments. Digital Signal Processing (DSP) is introduced. 4 CrHrs. Pre-Req: EET2010B

**EET2100A - Electro Hydraulics & Process Control** - This is a basic course designed to introduce the student to electro hydraulics as used in industrial machinery. The student will learn the advantages and uses of electro hydraulic power systems, how energy is provided to these systems by pumps and compressors and how that energy is applied through cylinders and motors. Electrical control devices are integrated into the system to monitor and control solenoids and proportional directional control valves. The student will learn to read circuit diagrams and perform common design calculations. Classroom theory will be reinforced through lab experience setting up and testing fluid power and electrical circuits. 4 CrHrs. Pre-Req: MET2400A.

**EET2110B - SCADA Systems** - This course provides an understanding of real-time automated control and data acquisition systems. Covered are the main components of a typical SCADA software system and its use for data collection and troubleshooting. A selection of case studies illustrates the key concepts with examples of real world working SCADA systems in various industries. 2 CrHrs. Pre-Req: EET2300C

**EET2200B - Digital Circuits I** - A study of digital logic components, this course will cover the basic digital building blocks of computers and other devices controlled by logic circuits. Boolean algebra is taught and used to evaluate and simplify logic circuit applications. The student will build a logic probe that will be used in the troubleshooting and analysis of logic circuits. The student will study the basic structure of data and program storage in digital arrays. Interfacing of logic devices to external applications will be introduced. The study culminates in an overall view of microprocessor architecture. 3 CrHrs. Pre-Req: None

**EET2220A - Digital Circuits II** - This course builds on a basic understanding of digital logic circuits to more advanced logic devices. The basic logic architecture of Simple Programmable Logic Devices (SPLD) and Complex Programmable Logic Devices (CPLD) are compared to other PLDs including the FPGA (Field Programmable Gate Array). The studies of PLDs lead into an investigation of the basic microprocessor architectures which are the fundamental building blocks of today's microcomputers. The classroom focus is reinforced by hands-on lab activities such as programming at the discrete logic gate level as well as programming at the PLD level. Students get a first introduction to assembly language and machine language programming to help them understand the dynamic interaction of components in the hardware architecture of microcomputers and their I/O connections to the environment around them. 3 CrHrs. Pre-Req: EET2200B

**EET2300C - Basic Electrical Applications** - This course begins with an exploration into the existence and nature of static and dynamic electricity. The student will be introduced to basic electrical relationships such as Ohm's Law and Watt's Law, and then will apply these basic relationships to basic circuit analysis. Series and parallel circuit networks and then more complex combination circuit networks are examined and analyzed. The course will present to the student an overview of the basic fundamental elements of electrical control devices, circuit layouts, and the tools used in industrial and residential electrical distribution systems. Class lab exercises will include wiring and testing various circuit applications. The student will be introduced to programmable controllers. 3 CrHrs. Pre-Req: None

**EET2320B - Introduction to Programmable Controllers** - As an in-depth review, electrical control circuits are designed, built, and tested in class lab exercises. The student will then be introduced to the fundamentals of programmable logic controller [PLC] input and output symbol identification. The student will then construct, load, and troubleshoot basic programs for Allen Bradley PLC's using A/B programming software. The basics of AC, variable, adjustable, frequency drives will be introduced and the application for controlling the acceleration/deceleration of electro-mechanical machinery will be covered. 3 CrHrs. Pre-Req: EET2300A

**EET2400A - Digital Electronics** - A study of digital logic components, this course will cover components found in computers, calculators, wrist watches, and other such applications. Students will use a logic probe to track down problems within various digital circuits. As an introduction to digital electronics this is a

comprehensive study of fundamental building blocks. The student will learn how to solve logic problems and apply logic circuits to many of these problems. 4 CrHrs. Pre-Req: None

**EET2500B - Advanced Programmable Controllers** - This course builds upon the student's fundamental knowledge of PLC programming by moving into more advanced features and uses of the PLC in industrial applications. Students will be expected to connect their notebook computers to existing PLCs by various means in order to troubleshoot problems. Students will be expected to understand networking basics as they apply to industrial controls. Networking of PLCs by various networking platforms will be taught and used in lab exercises. Other advanced studies will include Analog I/O, math functions, fault location, diagnosis and repair, motor drive controllers, and high speed counter applications. 3 CrHrs. Pre-Req: EET2320B

**EET2550A - Prgmble Integr Crcts** - This course is designed to introduce the student to programmable integrated circuits called PIC's or microcontrollers, and to make use of the microcontroller's power by programming it to solve common industrial problems. By use of the microcontroller and simple electrical hardware the student will set up electrical control circuits and write programs in Basic programming language to provide control solutions to various projects presented by the instructor. Although by necessity there is some electrical content to this course, the focus of the course will be on problem solving through programming logic. The programmable integrated circuit used in the class is called "The Stamp". This device has received high acclaim among educators and engineers alike for its versatility and power. 4 CrHrs. Pre-Req: None.

**EET2560A - Technical Programng** - This course is designed to introduce engineering students to basic computer programming using a modern computer language. Students will learn the basic problem solving skills needed to organize their thoughts into the step-by-step instructions necessary to produce a professional, working computer program. This course will be application based, helping students learn to write computer programs that they can use both personally and professionally. 4 CrHrs. Pre-Req: None.

**EET2600B - Robotics I** - This course gives a project oriented introduction to the field of robotics. It will guide the student through the challenges of robotic construction and various methods and languages of programming. Since types of robots vary widely, the course will focus on common elements that are found in all robotic applications: drive train mechanisms, sensory mechanisms and circuits, manipulators and other external effectors, and control and programming methods. The course will begin studies of robotic manipulation with a focus on Braitenberg Vehicles, their characteristics, and how they are controlled. Each student will program a robot for prescribed assignments and apply various external effectors to accomplish design solutions to typical robotic problems. Humanoids and industrial applications and programming will be introduced and discussed in preparation for more advanced studies in specific robotic applications. 4 CrHrs. Pre-Req: None

**EET2620A - Robotics II** - This course is a continuation of Robotics I. Students will learn the application of pendent boxes. The control of the robot by both computer and pendent box will be practiced. Advanced programming skills such as subroutine and external input will be taught. This is a heavily hands-on, involved course. The above skills will be exercised on various robot models including Scorbot, Vex and Mitsubishi in order to expose the students to a variety of robots. Students will learn how to program the industrial robot for it to properly respond to the external stimulation and react accordingly. 3 CrHrs. Pre-Req: EET2600B

**EET2700A - Applied Design Project** - This capstone course allows students to apply and integrate previous course work by planning an electrical design project. 2 CrHrs. Pre-Req: Greater than 90 CrHrs.

**EET2900A - Elec Eng CO-OP** - Cooperative education is a learning experience which integrates the student's academic field of study with work experience in business and industry. Co-op students receive college credit for structured, on-the-job learning experiences related to their academic field. 1-4 CrHrs. EET2900A is repeatable to a maximum of 10 CrHrs. Graded on a S/U basis. Pre-Req: Greater than 45 CrHrs.

**EET2980A - Special Topics** - This course presents a special project in the area of Electrical Engineering Technology designed to give students the opportunity to pursue studies not otherwise offered in the degree program. 1-5 CrHrs. EET2980A is repeatable to a maximum of 10 CrHrs. Graded on a S/U basis. Pre-Req: Department approval.

**EET2990A - Individual Investigation** - EET2990A is an independent investigation of an appropriate problem in the student's major field of interest. 1-5 CrHrs. EET2990A is repeatable to a maximum of 10 CrHrs. Graded on a S/U basis. Pre-Req: Department approval.

**ENG0000A - CM Elective** - No Desc.

**ENG0920A - My Foundation Lab** - This course is for students who score within the decision zone range on the COMPASS placement test. Students work independently in this computer-assisted class. My Foundations Lab provides instruction, exercises, and activities to strengthen student skills in the areas of math, writing, and reading. All work is completed on-line and on the computer. Students may work in all three areas of the course, or they may work only in the area(s) of need. Students must have basic computer skills to participate in this course. 1 CrHrs. Pre-Req: Advisor recommendation.

**ENG0960A - Reading Enrichment I** - This class provides instruction and practice that will allow the student to have increased comprehension and retention of written communication. The concepts of main ideas, implied main ideas, location of main ideas, supporting details, inferences, transitions, relationships (involving examples, comparison and/or contrast, and cause and effect), organizational patterns, and argument evaluation are introduced and reinforced throughout the term. Using a word-in-context approach with abundant practice, the student will develop an increased vocabulary of 200 essential words. 4 CrHrs. Pre-Req: None.

**ENG0965A - Reading Enrichment II** - ENG 0965A provides instruction and practice that will allow the student to have increased comprehension and retention of written communication. The concepts of main ideas, implied main ideas, location of main ideas, supporting details, inferences, transitions, relationships (involving examples, comparison and/or contrast, and cause and effect), organizational patterns, and argument evaluation are introduced and reinforced throughout the term. Using a word-in-context approach with abundant practice, the student will develop an increased vocabulary of 200 essential words. Pre-Req: Reading Enrichment I or appropriate COMPASS score.

**ENG0980B - Preparation for College Writing I** - This course focuses on helping students learn grammar and effective sentence boundaries. It is recommended for students who performed poorly in English in high school or who have been out of school for several years and need a review in written language use. It addresses such areas as parts of speech, sentence patterns, punctuation, and consistency and agreement issues. While the goal of the course is to assist students in writing clear and correct sentences, an equally important goal is to demonstrate how well constructed sentences add to the clarity and effectiveness of longer pieces of writing. 4 CrHrs. Pre-Req: None.

**ENG0990B - Preparation for College Writing II** - This course focuses on helping students learn grammar and effective sentence boundaries. It is recommended for students who performed poorly in English in high school or who have been out of school for several years and need a review in written language use. It addresses such areas as parts of speech, sentence patterns, punctuation, and consistency and agreement issues. While the goal of the course is to assist students in writing clear and correct sentences, an equally important goal is to demonstrate how well constructed sentences add to the clarity and effectiveness of longer pieces of writing. 4 CrHrs. Pre-Req: None.

**ENG1090A - English Composition I** - In this composition course, you will write themes and essays based on your own experience. This class includes an analysis of the formality needs of standard English, the study of effective organization and style, the analysis of writing for logic and reason, and a strong concentration on developing clear and concise writing skills. 4 CrHrs. Pre-Req: ACT or placement test completed and OIS 1240A or concurrent enrollment, or examination. This course is on the Ohio Transfer Module. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**ENG1100A - English Composition II** - This class focuses on research writing. Topics covered include avoiding plagiarism, conducting library research, citing sources using APA citation style, and writing research papers. In addition to graded course work, two course competencies (using apostrophes and citing courses) must be met to earn credit for this class. 2 CrHrs. Pre-Req: ENG1090A. This course is on the Ohio Transfer Module. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**ENG1100Z - First Year English Composition** - Practice in the fundamentals of exploratory writing, as illustrated in the student's own writing and in the essays of professional writers. 5 CrHrs. Pre-Req: Interactive Media Major.

**ENG1140A - Business Communications** - A focus on customer and reader needs is essential for effective business communication. In this course, you will learn how to write clear, friendly messages tailored to specific situations with the customer and reader in mind. You will also learn to write effective e-mail and a formal report with graphics based on primary research. Other lessons include information on conducting and arranging good business meetings and on creating good visual aids for presentations. In addition, you will construct a personal job package consisting of a resume, cover letter, and thank-you letter and you will study and practice interviewing skills. All of these projects are designed to develop vital job skills. 4 CrHrs. Pre-Req: ENG1090A. This course is on the Ohio Transfer Module and TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**ENG1160A - Oral Communications** - This class prepares you for communication on the job. Topics included are nonverbal communication, listening, questioning, speech organization, theories of learning, theories of persuasion, ethics of communication, and public speaking. Students will give three speeches. 4 CrHrs. Pre-Req: None. This course is on the Ohio Transfer Module and TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**ENG1170A - Professional Research & Presentation** - Students will explore the development, maintenance, and termination of interpersonal relationships by defining and explaining basic terms, principles, and theories of interpersonal communication. Students will analyze, adjust, and improve own communication behaviors while critically apply interpersonal theories to a variety of communication contexts. An understanding of interpersonal communication with a focus on verbal, nonverbal, listening, perception, conflict, power, influence, and/or gender/diversity will be demonstrated. This course is on the Ohio Transfer Module. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**ENG1210A - Conversational Spanish for CJ** - Conversational Spanish for Criminal Justice will introduce basic spoken Spanish in a variety of authentic law enforcement situations. By interpreting various situations involving cultural differences, students prepare themselves to effectively react to real-life law enforcement conditions. ENG1210A provides important and useful information, thereby preparing each student to effectively assist Spanish-speaking individuals in our changing world. 4 CrHrs. Pre-Req: CJ Majors only.

**ENG1900B - Early American Literature** - This course is the first of two courses comprising a selected survey of American literature. In this course we will focus on the literature of British-influenced North America written in English during the 1700s and 1800s. The time period will be roughly 1600-1860. We will explore the invention and formation of "Americanness" and "American literature" during this time of change during the development of the United States as an early nation, examining some of the fundamental ideas, myths, assumptions, intellectual concepts, and popular perceptions that still influence the ways in which Americans think about themselves. Some of the authors that may be included are as follows: Anne Bradstreet, Ben Franklin, Thoreau, Emerson, Poe, Washington Irving, Hawthorne, Melville, and Longfellow. 4 CrHrs. No prerequisite.

**ENG1920B - Modern American Literature** - In this course, students will first discuss the movement away from literary romanticism in American literature in the mid-1800s, and the mood for change in literary style. Such works as HUCK FINN will be studied in detail. Students will then also explore the regional realists as a transition between the old romanticism and the new realism. Time will be spent on a discussion of the social and philosophical influences upon the American literary scene, especially through the rise of realism and naturalism in the late 1800s. Authors of note in this segment include Jack London, Stephen Crane, and Kate Chopin. Students will next also explore the reevaluation of American values and the rise of social criticism through the extension of naturalism and the development of expressionistic and stream of consciousness techniques. Authors in this group include Robert Frost, Ernest Hemingway, and F. Scott Fitzgerald. An extended study of Fitzgerald's *The Great Gatsby* will be included. Some time will be also be spent on considering the alienation and dissatisfaction expressed during the 1920s and 1930s and the works that demonstrate that trend. Finally there will be a brief survey of recent trends in contemporary 20th and 21st century American fiction and poetry. Pre-requisite: None

**ENG2980A - Special Topic** - This is a special course in the area of communications designed to give groups of students the opportunity to pursue studies not otherwise offered. Graded on a S/U basis. 1-5 CrHrs. Pre-Req: Department approval.

**EKG2990A - Individual Investigation** - In this course the student works independently in an area of communications not provided for in other courses. A reading/research/writing project or problem is jointly selected by the instructor and student. Graded on a S/U basis. 1-2 CrHrs. Pre-Req: Department approval.

**EUT0000A - UT Elective** - EUT course outside of program requirements as allowed by academic plan.

**EUT1001A - Introduction to Power Linework I** - This course will introduce the electrical power industry with a strong emphasis on basic safe work practices. Students will learn how to size, inspect and maintain pole climbing equipment. The introductory skills of climbing wooden poles safely using fall restraints and how to maneuver around the pole will be taught. Students will learn the identification of basic power utility materials, tools and equipment and their uses. This course will also teach rope basics, tying knots, setting up a safe work zone and how to conduct a comprehensive job briefing. 4 CrHrs. Pre-Req: None.

**EUT1011A - Introduction Power Linework II** - This course is a continuation of the pole climbing portion of EUT1001A. Successful completion of this course and its prerequisite will result in the attainment of a wood pole climbing certification. The elements of the certification include: safe climbing procedures, performing pole top rescue, attaining maximum prescribed heights and being able to perform functional tasks at those heights. Instruction on splicing 3-strand rope, safe work practices in the industry and learning how to be an effective ground worker is included in this course. Students will also learn how to inspect and use bucket trucks and digger derrick trucks. 4 CrHrs. Pre-Req: EUT1001A.

**EUT1021A - Electrical Power System Overview** - This course will present an overview of the electrical power system including the basic functions of various electrical apparatus. Students will gain a broad view of the electrical distribution system and learn basic electrical theory. The students will learn transformer theory and how to use tools and construction materials in the field, while demonstrating proper tool and equipment care. RUS standards of line construction will be the basis for the construction of typical pole framing taught on wooden poles using climbing equipment. 4 CrHrs. Pre-Req: None

**EUT1030B - Power Utility Safety** - The NESC Code Safety is something that every power lineworker needs to have as a foundation for everything he or she does. The emphasis of this course is lineworker safety as outlined in the NESC. Students will calculate loads for rope rigging and practice various rigging methods in the field. The student will learn hollow braided rope splicing. A thorough overview of all sections of the National Electrical Safety Code will keep students aware of safety-first principles. Personal protective grounding and the theory of equipotential grounding will be strongly stressed. Basic chain saw safety as well as right-of-way requirements for utility lines will also be studied. The course ends with trenching and excavation safety. 4 CrHrs. Pre-Req: None

**EUT1040A - Electric Utility Project Construction** - Students will learn basic overhead construction in this course through pole setting, installation of crossarms and insulators and tying in of line conductors. Structures will be constructed using RUS specifications. Students will learn to install armor rod, hand ties and prefabricated ties on a short line and then take their training aerial. A single phase line will be constructed and the student will also frame three phase poles. The student will also learn various transformer installation techniques and how to rig to insulator replacement. The course will conclude with the student learning how to safely repair downed line conductors. 4 CrHrs. Pre-Req: EUT1021A

**EUT1090A - Distribution Transformers & Circuits** - This course will give students a basic understanding of electrical essentials for powerline workers. They will be taught electrical units, the use of Ohm's Law, AC and DC circuit fundamentals, three phase AC circuits, the use of clamp-on ammeters, and how to apply these concepts and skills to linework. This course will also include hands-on training in distribution transformers and wye and delta configurations of transformer banks. Students will also learn the basics of single and three phase revenue meters and safe meter sets. 4 CrHrs. Prerequisite EUT1021A or EUT1190A

**EUT1100A - Underground Utility Line Construction** - In this first of two courses in underground residential distribution (URD), construction techniques and basic components of URD systems will be introduced. The course includes personal protective grounding techniques as well as equipment grounding of the underground distribution system. The student will gain knowledge of critical safety-related work practices necessary to deal with URD system installations. Hands on training will include transformer installation, along with elbow and pothead terminations. Additionally, students will install risers in their climbers. The course concludes with digging equipment used in URD installs and how to safely work around this digging equipment. 4 CrHrs. Pre-Req: None

**EUT1120A - Overhead Utility Line Maintenance I** - This course introduces the student to proper rubber gloving procedures using this method to perform overhead live line maintenance tasks. Safe work practices in a live line work zone will be stressed along with properly applying and utilizing protective cover-up equipment. Various types and sizes of conductors utilized in overhead distribution power systems will also be studied along with hot sticking procedures. The main part of this course will involve the students using rotation work stations devoted to various "hands on" live line maintenance tasks. Conductors will then be strung and the proper sag tensioned on the conductors, and then tied in. There will be strong emphasis on safety in all tasks performed during the course. 4 CrHrs. Pre-Req: EUT1040A or EUT1190A or department approval.

**EUT1130A - Ovrhd Ut Ln Maint II** - This course reviews and reinforces the skills learned in EUT1120A. The emphasis of safe work practices in an energized environment will continue to be a large part of the training in this course. A series of intense overhead maintenance projects will be set up to simulate energized overhead line maintenance tasks. Students will be formed into work groups and will rotate through all the projects. Students will set poles in live lines, replace insulators, crossarms and apparatus along with cutting in deadends on three phase lines. The student will have a thorough understanding of job briefings, lockout-tagout, rubber gloving procedures, and writing of job hazard analyses. 4 CrHrs. Pre-Req: EUT1120A

**EUT1190A - Basic Lineworker Training** - This course will introduce the student to the electrical power industry with a strong emphasis on basic safe work practices. Students will learn the skills of climbing wooden poles. Students will learn the identification of basic power utility materials, tools and equipment and their uses. This course will also teach rope basics, tying knots, splicing 3-strand rope, setting up a safe work zone and how to conduct a comprehensive job briefing. Successful completion of this course will result in the attainment of a wood pole climbing certification which will include safe climbing procedures, performing pole top rescue, attaining maximum prescribed heights and being able to perform functional tasks at those heights. Safe work practices in the industry and learning how to be an effective ground worker is included. Students will also be trained in the use of bucket trucks and digger derrick trucks along with inspections thereof. This course will present an overview of the electrical power system including the basic functions of various electrical apparatus. Students will gain a broad view of the electrical distribution system and learn basic single phase transformer connections. They will also learn how to use tools and construction materials in the field, while demonstrating proper tool and equipment care. Various standards of line construction will be the basis for the construction of typical pole framing taught on wooden poles using climbing equipment. This course will teach lineman safety as outlined in the NESC. Students will calculate loads for rope rigging methods in the field. Grounding of equipment and personal protective grounding is also studied. Basic chain saw safety as well as right-of-way requirements for utility lines will also be studied. Trenching and excavation safety will be taught in the classroom. Students will also learn various methods of erecting and setting poles, installing crossarms and conductor insulators, placing the line conductors and providing appropriate grounds as specified in acceptable line standards. Students will construct a single phase and three phase line, and learn various methods of hanging a transformer. The course concludes with the repair of damaged lines and broken insulators. 20 CrHrs. Pre-Req: None

**EUT2400A - Electric Utility Apparatus & Substations** - This course introduces the student to the electric power utility substation. It begins with a focus on the overall structure and major components of a substation. Safety practices while working in substations will be emphasized throughout the course. The mock substation at the training facility will be utilized offering the practical aspect. The general functions and control of the substation will be followed by a more detailed look at power transformers, circuit breakers, regulators, capacitors, relays, and control equipment found there. Further studies will be presented on regulators and their control and maintenance, basic types of reclosers and sectionalizers with proper inspection and operation, and transformer banking. The week will end with a focus on primary metering and troubleshooting. 4 CrHrs. Pre-Req: EUT1020A or EUT1090A

**EUT2410A - Underground Electric Line Maintenance** - Beginning with a review of URD fundamentals and safety practices, this course presents the student with a full range of URD line maintenance exercises. Students will work in work crews and rotate among the stations to gain maximum exposure to URD line maintenance. The training field will be energized to secondary voltage with three underground risers to train in live-line switching procedures. Troubleshooting procedures in our underground training facility will also be a large part of the class. Troubleshooting transformers and working with 600 amp switchgear will also be a part of the student's experience. Various types of cable locating and fault locating equipment are presented and then used by students to locate cable and faults in URD stations. 4 CrHrs. Pre-Req: EUT1100A

**EUT2420A - Advanced Electric Utility Apparatus** - This is a course dealing with a broader view of apparatus used in the electric power industry that linemen will encounter. The student will be exposed to regulators, reclosers and the most common electronic controls and will have "hands on" training in those areas. The student will gain a broad overview of switching circuits and substations along with the various hazards involved. System coordination will also be studied in depth along with polyphase metering and instrument rated transformers. The student will learn how to connect both self-contained and transformer rated polyphase meter systems. Upon completion of this course, the student will have a complete understanding of wye and delta systems and their applications. Industry experts will be guest speakers on a few of the subjects in this course. 4 CrHrs. Pre-Req: EUT2400A

**EUT2900A - Cooperative Work Experience I** - After the second year of study each student will be required to complete the above course as a matter of documented on-the-job training. These courses follow the "2900" series of Engineering course formats. The course is structured through the joint efforts of Marion Technical College, the student's immediate supervisor, and the student. Further training needs will be determined on an individual basis. Commitment will be made by student, the student's supervisor, and MTC to accomplish OJT training in the identified areas. In addition, the student will be required to attend at least one OREC sponsored professional school. 3 CrHrs. Pre-Req: EUT1120A or department approval.

**EUT2910A - Cooperative Work Experience II** - After the third year of study each student will be required to complete the above course as a matter of documented on-the-job training. These courses follow the "2900" series of Engineering course formats. The course is structured through the joint efforts of Marion Technical College, the student's immediate supervisor, and the student. Further training needs will be determined on an individual basis. Commitment will be made by student, the student's supervisor, and MTC to accomplish OJT training in the identified areas. In addition, the student will be required to attend at least one OREC sponsored professional school. 3 CrHrs. Pre-Req: EUT1120A

**EUT2920A - Cooperative Work Experience III** - Cooperative education (co-op) is a learning experience which integrates the student's academic field study with work experience in business, industry, government, social service, and/or other professions. The goals of cooperative education are career orientation, job upgrading, and professional development. Co-op assignments are designed to challenge the student's capabilities, extend classroom learning and skill development, provide exposure to state-of-the-art practices, and provide a sound basis for making future career decisions. The EUT series of co-op courses focus on the electric utility industry and ways to (1) identify the knowledge and skill needs of each applicant and (2) structure a learning environment that provides for appropriate competency training. Co-op is an educational partnership between students, employers, and MTC that integrates the students' academic studies with work experience. This arrangement is established by which students receive college credit for structured, on-the-job learning experiences directed by the designated electric utility. 3 CrHrs. Pre-Req: Department approval

**FIN1000A - Personal Finance** - Personal Finance is a study of the techniques for personal financial management. Topics include budgeting and financial decision-making; credit rating systems; relationships with financial institutions, health, life, and property insurance, retirement planning, and other related topics. This course includes an application of financial management principles through case studies. 2 CrHrs. Pre-Req: OIS1200A or successful completion of Technology Skills Test.

**FIN2100A - Corporate Financial Management** - FIN2100A is a study of the financial management function in a modern business. Emphasis is placed on achieving wealth maximization through daily activities such as credit and inventory management, financial forecasting and analysis, and capital budgeting decisions. 4 CrHrs. Pre-Req: ACC1410A and BUS1100A. Offered: Sp.

**GEN0000A - General Education Elective** - None

**GEO1200Z - Earth Systems** - Introduction to the characteristics and processes of the Earth's atmosphere and their linkage with other physical systems of the planet and with human activity.

**HIT1100 - Intro to Hlth Records and Clncl Doc.Stds** - This course will provide the student a practical orientation and overview of what allied health students will encounter as they enter the healthcare profession. The course will outline the basic healthcare documentation principles, address the transition to the electronic health record, and will introduce the student to the documentation principles of hospital as the practice model as well as in physician office, ambulatory, home health, hospice, behavioral health, and long-term care settings. Students will be provided with an introduction to industry policies, procedures, and state and federal statutory and regulatory requirements that impact medical record documentation. The process of voluntary accreditation and the development of external practice standards are also explored. 2 CrHrs. Pre-Req: None.

**HIT1150A - Health Care Reimbursement** - This course introduces the student to reimbursement policies and procedures in the use of clinical data, issues and systems, including the compliance environment; payers; reimbursement vocabulary and systems such as DRGs, RBRVS, APCs, CMS 1500 and UB92 billing forms; charge masters, EDI, billing technologies, and application programs. Students will learn the value of using established guidelines to comply reimbursement and reporting requirements, to perform data quality reviews to validate code assignments. 3 CrHrs. Pre-Req: HIT 1200A

**HIT1200A - Health Record Management I** - This course is an introduction to health information technology as a work-based, task-oriented function and as a part of a larger profession of health information management. Ever since physicians and other caregivers have been documenting their care of patients, they have had individuals working with them to help store and retrieve documentation. The field of health information management embraces a variety of individual functions and professional capacities. This course is designed to meet the needs of students at the beginning of their course of study in health information. Topics include the environment of health delivery services including basic reimbursement methodologies, health data versus health information; the content, structures, and processing of health information; the basics of health statistics, data quality management, the maintenance and analysis, legal issues related to confidentiality and compliance, supervisory issues; and the storage and retrieval of documentation. 2 CrHrs. Pre-Req: None

**HIT1300A - ICD-9-CM Coding** - This course is designed as a comprehensive course for the student requiring advanced education in ICD-9-CM Coding. The student is introduced to the use of the medical record as a source document. The course continues with coding in all applicable health care areas emphasizing the application of the related skills with accuracy and completeness. This course introduces history and development of clinical vocabularies and classification systems. Principles and guidelines for using the International Classification of Diseases (ICD-9-CM) to code diagnoses and procedures in a variety of settings are introduced. Disease and procedure coding is presented for selected body system conditions. Examples of patient records and exercises using coding manuals and software tools provide practice in coding and sequencing diagnoses and procedures. Application of coding principles to electronic record systems is explored as well as introductory lessons in ICD-10-CM. Practice using the encoder and reference software is a required component of this course. Hands-on practice using encoder software serves to reinforce coding skills and familiarizes students with a type of tool typically encountered in job settings. 5 CrHrs. Pre-Req: Dept approval

**HIT1400A - CPT-4 Coding** - This course is designed as a comprehensive course for the student requiring advanced information in CPT-4 Coding. The student is introduced to the current purposes and uses of CPT-4, applying the basic coding guidelines in evaluation and management services along with surgical and ancillary coding and is completed with practical experience coding from case studies. Students will also be exposed to the coding requirements for Medicare billing and other insurance carriers in the reimbursement process. Students will be introduced to the value of the quality coded data within a data quality improvement plan and for the prevention of fraud and abuse. 5 CrHrs. Pre-Req: HIT1300A

**HIT1500A - Advanced Clinical Classification System** - This course provides the student with advanced knowledge and coding practice in clinical classification systems; in-depth prospective payment system; data quality, fraud and abuse in coding; advanced case studies. This course builds upon concepts learned in ICD-9-CM and CPT coding course. It focuses upon the management of coded data in clinical databases, for use in reimbursement and decision-support in various healthcare settings. SNOMED and additional classification systems are also introduced. The student will also be introduced to the revenue cycle, data presentation and report generation as well as coding quality and coding compliance. 4 CrHrs. Pre-Req: HIT 1400A

**HIT1600A - HIT Professional Practice I** - This course provides the student with practical experience in an affiliated healthcare facility or in a simulated environment in a health information technology lab. Students will apply their knowledge and skills of billing and coding under the instruction of health information professionals. Students will maintain contact and supervision with a full-time faculty through online discussions, assignments, and journaling. A supervised professional practical experience in the health information management department of a hospital or other healthcare setting with adequate facilities to provide varied work opportunities in ICD-9-CM, CPT and HCPCS level II coding. Students will work under the supervision of a qualified RHIA, RHIT, or other qualified personnel to whom they are assigned. Students will also receive college faculty consultation. The professional practice experience is designed to enable students to obtain actual work experience in theoretical and application-based procedures previously studied. This professional practice consists of 80 hours. Hours are to be arranged with site preceptor. During the Professional Practice experience, the student will have an opportunity to prepare for a coding certification exam through the use of professional review guides. 2 Credits, 1 Lecture, 8 Fieldwork for 10 weeks. Pre-Req: Department Approval

**HIT2000A - HIT Legal Issues** - The student will study the policies and procedures for processing health records as a legal document based upon legal and regulatory requirements. The importance of maintaining confidentiality of health information, access to information, transfer of health information, subpoenas for patient information, legal terminology and court systems, liability, and retention will be discussed. Students will learn about user access, logs and systems to track access to and disclosure of identifiable patient data, conduct privacy and confidentiality training programs, and how to investigate and recommend solutions to privacy issues and problems. Ethical standards of practice will be applied and promoted. 3 CrHrs. Pre-Req: HIT 1200A

**HIT2100A - Health Record Management II** - This course is a continuation of HIT 1200A Health Records Management I. Topics include the content of the health record and documentation requirements; components of specialized records and content, different record formats, health record documentation requirements for accreditation and government review bodies; filing and storage systems; electronic health records; policies and procedures required to collect, analyze, interpret, report and maintain healthcare data including the different types of data sets and data abstracting, the purposes and uses of secondary data for internal and external use. Students will further understand the legal and ethical guidelines for the release of information. The student will perform chart reviews and will be introduced to the requirements for establishing, operating, and maintaining various indices and registries. 4 CrHrs. Pre-Req: HIT 1200A

**HIT2200A - HIT Statistical Analysis** - The student is introduced to procedures for properly collecting, organizing, displaying, and interpreting healthcare data to meet the needs of various users while complying with the standards of the health care facility. Topics include understanding how statistics are used in healthcare, differentiate between descriptive and inferential statistics, how to use statistical formulas for hospital-related and outpatient statistical reports, understand morbidity and mortality rates, calculate measures of central tendency and variability, spreadsheet applications, data presentation, online database searches and to develop comparative statistical reports using that data. 3 CrHrs. Pre-Req: HIT 2100A

**HIT2300A - Health Information Technology Systems** - An in-depth look at the use of information technology in the healthcare delivery system including the role, purpose and use of health information systems, computer-based patient record, various health information system applications, information system life cycle and future technologies. Topics include defining the EHR, identify early attempts at development, challenges to the adoption of the EHR, and relates current status of the EHR, hardware, software, proprietary applications used in Health Information Management, and clinical inpatient information systems, project management and roles of stakeholders, strategic planning, baseline assessments, understanding healthcare process and workflow analysis and learn new initiatives in healthcare computing such as Health Information Exchange and the Personal Health Record. 3 CrHrs. Pre-Req: HIT 2100A

**HIT2400A - HIT Quality Assessment** - The student will be introduced to procedures for facility-wide quality management and performance improvement programs. Emphasis will be placed on analyzing clinical data to identify trends that demonstrate healthcare quality, safety, and effectiveness utilizing performance improvement tools. Students will be made aware of the increased importance of patient safety and new national patient safety goals to high-quality healthcare and clinical quality management including infection control, utilization management, case management, risk management, and how information technologies enable and facilitate more effective PI activities. 3 CrHrs. Pre-Req: HIT 2100A

**HIT2500A - HIT Professional Practice II** - Students are assigned to area healthcare facilities to work under the supervision of health information management professionals. Students will obtain exposure to actual working conditions and gain experience in various aspects of health information management services. Students will maintain contact and supervision with a full-time faculty through online discussions, assignments, and journaling. 2 Credits, 1 Lecture, 8 fieldwork for 10 weeks, Pre-Req: Department Approval

**HIT2600A - HIT Capstone** - This course is a review of theory and practice in health information management in preparation for national examination. Case studies will be used to emphasize analytical skills of HIT processes and ethical/legal situations. Issues and concerns facing the graduate along with resume and interview skills will be discussed. After successful completion of this course, and graduation fulfillments, the student will be prepared to take the national certification exam through the American Health Information Management Association. The student will also develop an e-Portfolio highlighting accomplishments for future use. 2 CrHrs. Pre-Req: Department Approval

**HLT1000A - Health Terminology I** - This course is designed for Health Technology students as a self-paced course in which students use a workbook to learn medical terms, proper usage, and pronunciations. The syllabus, course directions, and tests are available and administered at the Student Resource Center. Students will learn to recognize medical terms used in any medical facility and, by use of optional CD, correct pronunciations. There are no formal classes to attend. Graded S/U. 1 CrHrs. Pre-Req: None.

**HLT1010A - Health Terminology II** - This course is designed for Health Technology students as a self-paced course in which students use a workbook to learn medical terms, proper usage, and pronunciations. The syllabus, course directions, and tests are available and administered at the Student Resource Center. Students will learn to recognize medical terms used in any medical facility and, by use of optional CD, correct pronunciations. There are no formal classes to attend. Graded S/U. 1 CrHrs. Pre-Req: HLT1000A or concurrent enrollment.

**HSS0000A - HS Elective** - None

**HSS1000A - Introduction to Human Services** - This course introduces students to the human services (welfare) system in America. The course addresses the various social problems that exist in America and the extensive human service networks that have been established to address these problems. Students will be introduced to a social work perspective for the causes of social problems. CrHrs. 4 Pre-Req: Program admission/permission from Lillie Kirsch, or Scott Potter

**HSS1100A - Human Services Practicum I** - Students will begin to apply knowledge and skills obtained from the classroom setting to a field placement site within the human and social service community. Students will be involved in observational experiences that progress toward "hands-on" learning experiences. Each student will develop a practicum plan that will consist of goals and objectives, and maintain a log of practicum activities. Students will devote a total of 70 hours to their practicum and attend weekly classes. CrHrs. 3 [2 hrs class, 7 hrs lab]. Pre-Req: HSS1200A and HSS1600A.

**HSS1200A - Introduction to Social Work** - This course introduces students to the history, values and ethics of social work practice. It will address social work practice as a wide range of value-guided, knowledge-based, change-oriented actions which help people to alleviate distress, accomplish life tasks, and achieve individual and collective aspirations. It introduces the systems framework, examines professional values in the context of societal values, as well as to acquaint students with the generalist framework. CrHrs. 4 Pre-Req: Program admission/permission from Lillie Kirsch, or Scott Potter.

**HSS1300A - Introduction to Counseling** - This course is an introductory course in counseling designed to expand the students' understanding and knowledge of basic counseling theories and intervention strategies most commonly used by human services professionals. Additionally, students will explore the ethical issues related to the profession and will be introduced to issues concerning boundary setting, counter-transference and characteristics of effective helpers. CrHrs. 4 Pre-Req: HSS1600A

**HSS1400A - Abnormal Psychology** - In this course students will learn the basic concepts of abnormal psychology. The diagnostic criteria from the Diagnostic and Statistical Manual of Mental Disorders (DSM IV TR) for the major categories of psychological disturbances will be presented. Facts about etiology, prognosis, and treatment modalities using the DSM IV TR as a basis will be presented and discussed. CrHrs. 4 Pre-Req: PSY1120A. This course is on the Ohio Transfer Module and TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**HSS1500A - Human Services Practicum II** - Students will apply their knowledge and skills in structured, on-the-job placements in selected social service agencies, gaining educationally-supervised experiences. Students will develop a practicum plan with relevant goals and objectives, and maintain a log of the practicum experiences. CrHrs. 3 (2 hours of class, 7 hours of lab weekly) Pre-Req: HSS1100A.

**HSS1600A - Interviewing Techniques** - Students will learn basic principles and practices of interviewing clients in a variety of human services settings. Students will demonstrate the ability to utilize active listening skills and the process of structuring an interview. The course introduces students to working with clients from a multicultural perspective, motivational interviewing, positive psychology, and wellness assessments in the interviewing process. Students will engage in role playing throughout the class. CrHrs. 4 Pre-Req: HSS1000A and HSS1200A.

**HSS2000A - Introduction to Case Management** - This course serves as an introduction to the concept of case management; working with individuals from the intake interview to termination of services. There is an emphasis on documentation and the responsibilities and skills of the effective case manager. In addition, students will gain an awareness of the legal and ethical issues confronting case managers today. CrHrs. 4 Pre-Req: HSS1600A and HSS1200A

**HSS2100A - Dealing with Diversity** - This course will introduce the student to the richness of diversity within the United States. The course will examine the similarities and differences of people of various racial and cultural heritages. Topics that will be examined include: the origin and effects of prejudice and discrimination, and investigations into the historical experiences of the major racial and ethnic groups in America. Students will have the opportunity to assess their own attitudes regarding the diversity this nation offers. Students will gain information that will assist in improving their ability to relate to people of diverse backgrounds. CrHrs. 4 Pre-Req: None. This course is on the Ohio Transfer Module and TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**HSS2200A - Group Process** - In this course, students will examine the stages of group development. The emphasis is on group interaction, interdisciplinary teams, and the dynamics of group facilitation. Students will have an opportunity to apply these skills by practicing roles in a simulated setting, and focusing on the different populations served by human service agencies. CrHrs. 4 Pre-Req: HSS2000A and HSS2100A.

**HSS2500A - Human Services Practicum III** - Students will apply knowledge and skills in structured, on-the-job placements in selected human and social service agencies, gaining educationally-supervised experiences. Students will develop a practicum plan with relevant goals and maintain a log of the practicum experience. CrHrs. 4 (2 hours of class, 14 hours of lab weekly) Pre-Req: HSS1500A.

**HSS2600A - Social Service Law** - This course examines the fundamental principles of criminal and civil law that have relevance to the practice of social work. Topics include the legal system: legal research methods; professional, ethical and legal responsibilities; family, criminal and juvenile law; capacity to make contracts and wills; rights of institutionalized patients; and, rights of handicapped children to an education. CrHrs. 2 Pre-Req: HSS2200A

**HSS2610A - Juvenile Delinquency** - Why do some juveniles become delinquent? This course examines the causes and effects of juvenile delinquency in American society. Students will learn the social and institutional factors influencing delinquent behavior. This course will also analyze a variety of intervention and treatment strategies. CrHrs. 4 Pre-Req: Permission from Lillie Kirsch, or Scott Potter.

**HSS2620A - Crises Intervention** - In this course students will be introduced to basic crisis intervention skills that will include an examination of the nature of crisis, and the use of models of assessment. Students will explore specific areas of crisis including lethality, post traumatic stress disorder, sexual assault, partner violence, chemical dependency, bereavement and grief, violent behavior in institutions, and issues related to burnout of human service workers. CrHrs. 4 Pre-Req: HSS1600A

**HSS2640A - Orientation to Deafness** - This course is designed to provide students with an overview of the deaf community. Students will explore social, cultural, and educational issues confronting the hearing impaired within our society. Additionally, students will learn basic sign language skills. CrHrs. 2 Pre-Req: Permission from Lillie Kirsch, or Scott Potter.

**HSS2700A - Special Families** - Students will explore issues related to family structures, dynamics and functioning, with an emphasis on family systems theory. Within this context, consideration will be given to how families deal with issues such as divorce, substance abuse, chronic illness and mental disorders, poverty and, death and dying. CrHrs. 4 Pre-Req: HSS2000A and HSS2100A.

**HSS2710A - Aging** - An introductory course in the study of adult development and aging pertaining to psychological and developmental issues, as well as changes and adjustments that occur physically, cognitively and socially during adulthood. The course covers current psychological and psychosocial theories and research findings relevant to adult development and aging. CrHrs. 4 Pre-Req: PSY1120A or permission from Lillie Kirsch, or Scott Potter.

**HSS2800A - Substance Abuse** - Students will examine both contemporary and historical models and theories used to describe addiction. There is an emphasis on how addiction affects the biological, psychological, social and spiritual dimensions of a person's life, as well as the interaction of the social and cultural contexts with addictive processes. Students will also learn prevention strategies used for the primary population, as well as various diverse groups. CrHrs. 4 Pre-Req: Permission from Lillie Kirsch, or Scott Potter.

**HSS2810A - Chemical Dependency: Intro Pharmacology** - Students will learn the pharmacology of drugs of abuse, as well as those used in detoxification, addiction treatments, and the treatment for mental and emotional disorders. There will be an emphasis on the action of pharmaceuticals and the physiological response, the interaction of pharmaceuticals, tolerance, the appropriate use of psychotropic medication with addicted persons, and the effects of drugs on sensation and perception, learning and memory, human growth and development, sexual functioning, and behavior. CrHrs. 2 Pre-Req: Permission from Lillie Kirsch, or Scott Potter.

**HSS2820A - Chemical Dep- Etlgy, Assmnt, Diagnosis** - Students will study methods of diagnostic interviewing and the use of testing/screening instruments for psychoactive substance abuse. Emphasis includes criteria for determining diagnosis and the appropriate level of treatment, adapting treatment strategies to individual needs, and relapse prevention. Other areas of study include techniques utilized in the treatment of dysfunctional relationships, cultural influences, and dual diagnosis. CrHrs. 4 Pre-Req: HSS1300

**HSS2830A - Chemical Dependency: Professional Ethics** - Students will learn principles of the ethical codes pertaining to addictions counselors, specific knowledge of appropriate ethical codes, laws associated with addictions counseling and obligations and procedures that encourage the ethical conduct of addiction counselors. CrHrs. 2 Pre-Req: Permission from Lillie Kirsch, or Scott Potter.

**HSS2960A - Field Placement** - Students will apply their knowledge and skills in structured, on-the-job placements in selected social service agencies, gaining educationally-supervised experiences. Students will develop a practicum plan with relevant goals and objectives, and maintain a log of practicum experiences. CrHrs. 3 (2 hours class; 7 hours of lab weekly) Pre-Req: Permission from Lillie Kirsch, or Scott Potter.

**HSS2970A - Field Placement** - Students will apply their knowledge and skills in structured, on-the-job placements in selected social service agencies, gaining educationally-supervised experiences. Students will develop a practicum plan with relevant goals and objectives, and maintain a log of practicum experiences. CrHrs. 4 (2 hours class; 14 hours of lab weekly) Pre-Req: Permission from Lillie Kirsch, or Scott Potter.

**HSS2980A - Special Topics** - This course presents a special project in the area of Human and Social Services designed to give groups of students the opportunity to pursue studies not otherwise offered in the degree program. CrHrs. 1-5; HSS2980A is repeatable to a maximum of 10 CrHrs. Graded on a S/U basis. Pre-Req: Permission from Lillie Kirsch, or Scott Potter.

**HSS2990A - Individual Investigation** - HSS2990A is an independent investigation of an appropriate problem in the student's major field of interest. CrHrs. 1-5; HSS2990A is repeatable to a maximum of 10 CrHrs. Graded on a S/U basis. Pre-Req: Permission from Lillie Kirsch, or Scott Potter.

**HST0000A - History Elective** - None

**HST1500A - Early American History** - This course is an introduction to the political, social, and cultural development of the American nation. HST1500A studies the American civilization from the age of exploration through the Civil War and Reconstruction. In addition, this course will focus on central themes and issues noted in the growth of the U.S. with the enduring theme being Life in Early America. The student will be asked to read supplementary analyses and critiques, and apply historical issues to modern topics. HST1500A will investigate the various dreams held by early Americans for the new nation and how these notions are interpreted by contemporary historians. 5 CrHrs. Pre-Req: None. This course is on the Ohio Transfer Module and TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**HST1520A - Modern American History** - This history course is an introduction to the political, economic, and social (with an emphasis on race, gender, and class) development of the American nation starting with Reconstruction. The primary objectives of this course are to develop your skills as a critical reader and provide you with fundamental knowledge about the events, people and institutions that have influenced and created America. We will examine how the perceptions of freedom and equality shifted and thus shaped American History. In addition, the course will investigate the various "dreams" Americans had as the nation progressed and how these are interpreted by contemporary historians. Key topics include the rise of industrialism and capitalism, the impact of immigration and urbanization, the rise of the US as a global power (including foreign relations) and how populism and civil rights and feminism shaped our culture and political and social institutions. CrHrs. 5 Pre-Req: None. This course is on the Ohio Transfer Module and TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**HST2020Z - History of Western Art II** - History of Western Art II: Europe and the United States, Renaissance to Modern. Examination of the history of art in Europe and the United States, from about 1500 to the present. 5 CrHrs. Pre-Req: Interactive Media Major.

**HST6980Z - India Study Tour** - India Study Tour – This study tour has been planned to provide students with opportunities to study Indian culture, to provide first hand view of India historically, geographically, politically, and economically, and to meet Indian students. This trip will provide students with a first-hand experience of the history and culture of India, which is a rising Asian world power in a globalizing world,

**HUM0000A - Humanities Elective** - Humanities elective

**HUM1200A - Critical Thinking & Problem Solving** - Become a more experienced critical thinker by learning about your thought processes and producing and enhancing your idea. Learn where you stand on personal and social issues, and understand why others have opposing stances. Skills learned in this course will apply to your academic and professional careers. 2 CrHrs. Pre-Req: None.

**HUM1220A - Introduction to Logic** - An introduction to symbolic analysis and logic. In this course students will recognize basic logic, distinguish arguments from non-arguments, recognize mistakes in reasoning, understand the construction of logic problems, understand inductive and deductive reasoning, evaluation and criticism of current media and political sources, and the role of language in reasoning and logic. CrHrs. 5. Pre-Req: None.

**IET1000A - Intro to Engineering** - This course introduces the student to engineering as a discipline, a program of study, and a career. The student will learn about the various fields of engineering, the types of functions engineers perform, and strategies for academic success in an engineering program. Students will learn to function as a member of a technical team and develop and apply hands-on engineering and problem solving skills by completing an open-ended engineering design project. 2 CrHrs. Pre-Req: None.

**MAS0000A - MA Elective** - None

**MAS1010A - Medical Assisting Clinical Procedures I** - Students in this course will learn basic clinical procedures performed in a physician's office. Lecture topics include infection control, standard precautions, bloodborne pathogen training, vital signs, triaging, patient history, medical documentation, and assisting with basic physical exams. Labs include patient preparation [patient history, chief complaint, vital signs, infant mensurations, vision and auditory testing, instillations, irrigations, positioning, bandaging]. 4 CrHrs. Pre-Req: MA majors only.

**MAS1025A - Medical Assisting Clinical Procedures II** - Students in this course will learn additional clinical procedures performed in a physician's office. Lecture topics include pharmacology, dosage calculations, prescriptions, surgical asepsis, suture removal, sterile fields, dressing changes, and administration of medications. Labs include administering oral medications, performing injections, patient education, and ambulation with walkers, canes, and crutches. 5 CrHrs. Pre-Req: MAS1010A.

**MAS1030A - Med Assisting Clinical Procedures III** - This course is a continuation of Medical Assisting Clinical Procedures I and II. The student will learn waived laboratory procedures. The student will learn EKG testing, accuracy of EKG tracings, and will review potential artifacts. The student will also prepare for externship and the employment process. 5 CrHrs. Pre-Req: MS 1025A

**MAS1040A - Elect. Health Records for the Med. Asst.** - The student will learn how to enter/edit patient demographic information through the use of EHR software. Students will also enter/view patient subjective and objective information, medications, notes, and diagnosis/procedure codes on the patient through the use of EHR software. 2 CrHrs. Pre-Req: MAS 1025A

**MAS1060A - Medical Assisting Issues and Review** - This course consists of review and correlation of knowledge taught in the technical courses, and preparation for the certification examination. 1 CrHrs. Pre-Req: Department approval.

**MAS1070A - Medical Assisting Practicum** - A seven-week [196 hours] assignment to a physician's office to observe and practice skills learned in the curriculum. 4 CrHrs. Pre-Req: Department approval.

**MAS2990A - Individual Invstgtn** - This course offers students independent study designed to meet a specific need of the field of Medical Sciences Department. Students arrange the time and topic with the instructor. Graded on a S/U basis. 1-8 CrHrs. Pre-Req: Department approval.

**MET0000A - ME Elective** - MET course outside of program requirements as allowed by academic plan.

**MET1010A - General Apt Prep** - This course prepares students to take tests required for entry into apprenticeship programs. Covered are a wide range of basic concepts of physics, tools encountered in a traditional maintenance shop, basic concepts of geometry, freehand sketching, and spatial relationships. Successful completion of this course does not guarantee that students will be successful with industrial trades. Graded on a S/U basis. 2 CrHrs. Pre-Req: None.

**MET1040A - Vector Analysis** - This course will introduce students to the use of vectors as they apply to physics and the various fields of engineering. It will begin with a thorough review of angles, triangles, and trigonometry to ensure that students have a firm understanding of the basic concepts that make up vector analysis. The student will learn to make calculations using vector quantities. Several methods of vector addition and subtraction will be covered. 2 CrHrs. Pre-Req: None.

**MET1060B - Basic Problem Solving** - This course provides a seven-step problem solving process that gives students clear guidelines to follow as they analyze problems and seek solutions. Students will learn specific problem solving tools and techniques designed to give a clear understanding of the problem and develop a clearly thought out solution. This standardized yet flexible process will integrate easily into any current company format, providing a powerful road map for problem solving that follows the time-honored Plan-Do-Check-Act Cycle. 2 CrHrs. Pre-Req: None.

**MET1330B - Computer Aided Drafting (CAD I)** - This entry-level course introduces students to the basic drafting skills necessary to produce engineering drawings. Drafting topics include sketching, lettering, scales, and multi-view drawings. CAD topics include drawing and editing tools, layers and linetypes, and printing and plotting. This course uses the latest CAD software to give students practical hands-on experience with software commonly used in industry. 2 CrHrs. Pre-Req: None.

**MET1340B - Computer Aided Drafting CAD II** - This course is a continuation of MET1330B, and builds on the skills developed in that class. This course covers drafting topics to include isometric and orthographic drawings, placement of symbols on engineering drawings, dimensioning, sectioning, assembly drawings, and an introduction to Geometric Dimensioning and Tolerancing and 3D CAD applications. 4 CrHrs. Pre-Req: MET1330B

**MET1400A - CAD Parametric Parts and Assemblies** - This hands-on course introduces the basic concepts of parametric part and assembly modeling using the latest computer aided design [CAD] software. Students learn to create and modify three-dimensional [3-D] parts, and combine these parts into assemblies. Topics include producing fully dimensional 2-D detail drawings from 3-D parts, and using part assemblies to make exploded scene drawings. Students will create an assembly in virtual space as a project. The concepts covered and skills developed in this course can be easily applied to any parametric modeling program currently used in industry. 4 CrHrs. Pre-Req: MET1330A or previous professional CAD experience.

**MET1500A – Metrology** - This course begins by reviewing machine drawings and the dimensional information that can be found on these drawings. Students will be able to read from the drawing the dimensions, type of finish, geometric relationships, type of materials, and other pertinent information needed to manufacture a part. The course will provide students competency in handling, reading, and applying, measurement tools such as micrometers, calipers, gauges, etc. being used in present day industry. The course comes full circle to optical comparators, coordinate measurement machines, and machine vision systems to complete student exposure to nearly all methods of material measurement used today. 3 CrHrs. Pre-Req: None

**MET1510A - Intro Machine Tools** - In this course students will study basic machine tool operations used in modern industry. Students will learn how to operate the lathe, vertical mill, horizontal mill, drill press, and surface grinder. They will also learn how to use precision measuring instruments. After studying various machining processes students will be given the opportunity to make several useful projects. This course has much hands-on emphasis. 4 CrHrs. Pre-Req: None

**MET2000B - Engineering Mechanics: Dynamics** - This course builds on the concepts learned in Physics: Mechanics or the Applied Technical Physics course series. Students will learn the basic laws of dynamics as they apply to movement and forces in mechanical systems. The course provides methods for solving technical problems involving bodies in both rectilinear and circular motion. The skills learned in this course can be applied to design and general technical problem solving. 2 CrHrs. Pre-Req: PHY1200A or PHY1350A

**MET2010B – Statics** - This course covers the fundamentals of materials and how they are affected by applied forces. Students will gain the skills to analyze applied loads and their effects on both machine parts and on structural steel members. Students will be given the opportunity to compare textbook theory with actual results through materials testing in the strength of materials laboratory. Students gain specialized knowledge for future courses as well as a wide range of practical job related skills. 4 CrHrs. Pre-Req: PHY1200A or PHY1350A

**MET2020B - Strength of Materials** - This course is a continuation of Statics and is designed to provide students with the skills to analyze the effects of various loads on beams, shafts and columns as well as bolted, riveted and welded connections. Students will gain additional knowledge through the opportunity to compare textbook theory with actual results through materials testing in the strength of material laboratory. 4 CrHrs. Pre-Req: MET2010B.

**MET2110B - Machine Design** - This course covers the basic concepts of machine design. Students will learn to apply engineering principles from previous courses to actual mechanical design situations. Students will learn to analyze static and dynamic loads and use this information to properly size system components. Topics covered include bearing, shaft design, belt, and chain drives. The skills learned in this course will be used in future courses and can be directly applied to the workplace. 4 CrHrs. Pre-Req: None

**MET2120A - Machine Design II** - This course is a continuation of machine design studies. It will cover the additional topics of gears, fasteners, frames, and molded and welded connections. The skills learned in this course can be directly applied to the workplace. 2 CrHrs. Pre-Req: MET2110A.

**MET2400B - Fluid Mechanics** - This course introduces the student to both the hydraulics and pneumatics of industrial machinery. The student will learn the advantages and uses of fluid power systems, how energy is provided to these systems by pumps and compressors, how that energy is applied through

cylinders and motors, and how the systems are controlled by valves and accumulators. Other study focuses on the internal fluid dynamics such as the direction and action of pressure forces on flat and curved surfaces. Students will learn about system components, fluids, reservoirs, piping, and filters, as well as how to read circuit diagrams and perform common design calculations. Classroom theory will be reinforced through lab experience setting up and testing fluid power circuits. 4 CrHrs. Pre-Req: TMT1500B or Concurrent

**MET2700A - Applied Design Project** - This capstone course allows students to apply and integrate previous coursework by planning and designing a mechanical system. 2 CrHrs. Pre-Req: Greater than 90 CrHrs.

**MET2750A - Applied CAD Project** - This capstone course allows students to apply and integrate previous coursework by creating engineering drawings based on an approved design project topic. 2 CrHrs. Pre-Req: MET1400A or concurrent

**MET2900A - Mech Eng Co-Op** - Cooperative education is a learning experience which integrates the student's academic field of study with work experience in business and industry. An arrangement is established by which students receive college credit for structured, on-the-job learning experiences related to their academic field. 1-4 CrHrs. MET2900A is repeatable to a maximum of 12 CrHrs. Graded on a S/U basis. Pre-Req: Greater than 90 CrHrs.

**MET2980A - Special Topics** - This course offers a special project in Mechanical Engineering Technology designed to give students the opportunity to pursue special studies not otherwise offered. 1-5 CrHrs. MET2980A is repeatable to a maximum of 10 CrHrs. Graded on a S/U basis. Pre-Req: Department approval.

**MET2990A - Individual Investigation** - MET2990A is an independent investigation of an appropriate problem in the student's major field of interest. 1-5 CrHrs. MET2990A is repeatable to a maximum of 10 CrHrs. Graded on a S/U basis. Pre-Req: Department approval.

**MFT0000A - MT Elective** - MFT course outside of program requirements as allowed by academic plan.

**MFT1200A - Industrial Safety** - This course involves a study of safety as applied to the workplace. Students will learn how to recognize safety hazards and begin practicing safe work habits including use of Personal Protective Equipment, HAZMAT awareness, and First Aid and basic CPR awareness. This course is taught through a series of on-line modules. 4 CrHrs. Pre-Req: None.

**MFT1400A - Statistical Process Control** - In this course, students will learn to construct and interpret the most common types of control charts. The charts covered include X-bar, R, X, MR, P, and nP. Students will learn to determine when a process is in control and calculate process capacity. 2 CrHrs. Pre-Req: None.

**MFT1410A - Engineering Statistics** - This course examines the fundamental principles of statistics with emphasis on practical applications. Topics include problem identification and diagnosis, data collection and presentation, probability, statistical inference, measures of central tendency and dispersion, sampling, and hypothesis testing. 4 CrHrs. Pre-Req: Compass Algebra Score of 54 or higher or MTH1110B and OIS1240A.

**MFT1500A - Computer Numerical Control (CNC)** - This course will introduce the various types of machines that commonly use Computer Numerical Control (CNC) programming. Students will learn general concepts common to all CNC machines such as machine control systems, machine and part coordinate systems, use of referencing, shifts and offsets, calculation of speeds and feeds, and word address (G and M code) programming. They will apply these concepts by completing actual programming, simulation, and machine projects using a CNC machining center with GE Fanuc 21 control. Other machines studied include: turning centers, Electric Discharge Machining (EDM), and abrasive water jet and laser cutting. Students will be able to see these machines in operation through the SME "Fundamental Manufacturing Process" video series. 4 CrHrs. Pre-Req: None

**MFT1550A - Basic Machinist Training** - This course provides the basic machinist and CNC operator skills necessary for new employees to become productive more quickly. It contains five, relatively equal in length, modules of instruction in Blueprint Reading and GDT, Applied Technical Math, Metrology, Introduction to Machine Tools, and CNC Machining: Set-up and Operation. 19 CrHrs. Pre-Req: None

**MFT1600A - Geometric Dimensioning & Tolerancing** - Geometric dimensioning and tolerancing is a state-of-the-art technical drawing language that provides students with better tools for communicating design requirements to manufacturing. The course builds upon previously learned skills, adding a new capability to drawing skills in defining the part and its features. 2 CrHrs. Pre-Req: BPT1300A

**MFT2010A - Production & Operations Management** - This course covers the management of processes that provide goods and services to customers. Individuals will learn the fundamentals of operations management including forecasting, capacity and production planning, layout and scheduling. In addition, students will gain exposure to the newest techniques such as lean manufacturing, demand flow, theory of constraints, cellular design, and just-in-time. Hands-on simulations illustrating both concept and practice will reinforce learning. 4 CrHrs. Pre-Req: None.

**MFT2040B - Quality Management** - This course presents the concepts involved in focusing all the resources of a manufacturing or service organization on the continual improvement of both quality and productivity. The majority of the course will involve manufacturing organizations. All of the concepts and principles of total quality are presented in a manner making them practical and applicable in a real-world setting. 4 CrHrs. Pre-Req: None.

**MFT2500A - Manufacturing Materials & Processes** - This course will introduce students to the broad range of materials and processes used in manufacturing. Students will learn about the basic structure and properties of materials, as well as specific characteristics of important engineering materials such as metals, ceramics, polymers, and composites. Students will also learn about common manufacturing processes including casting and molding, forming, joining, and surface treatment. 2 CrHrs. Pre-Req: None.

**MFT2510B - Engineering Economics** - This course introduces the principles of engineering economics. Elements of cost structure and the application of seven foundation principles necessary to provide valid solutions to engineering problems will be covered. Students will learn how to consider the economic impact of any engineering decisions made while estimating and designing new production machines or techniques for various types of manufacturing processes. 4 CrHrs. Pre-Req: None

**MFT2600A - CQT/Prep/Refresher** - This course will prepare students to pass the American Society for Quality [ASQ] Certified Quality Technician [CQT] examination. Students will review the body of knowledge covered by the exam and receive valuable review material. Students will also receive and learn how to use essential reference books, gain experience answering typical exam questions, and practice taking simulated exams. 4 CrHrs. Pre-Req: MFT1410A & MFT2040A; some basic knowledge or experience in quality is recommended.

**MFT2700A - Applied Design Project** - This capstone course will allow students to apply and integrate previous coursework by planning a manufacturing operation or setting up a quality program. 2 CrHrs. Pre-Req: Greater than 90 CrHrs.

**MFT2900A - Manufacturing Co-Op** - Cooperative education is a learning experience which integrates the student's academic field of study with work experience in business and industry. An arrangement is established by which students receive college credit for structured, on-the-job learning experiences related to their academic field. 1-4 CrHrs. MFT2900A is repeatable to a maximum of 12 CrHrs. Graded S/U. Pre-Req: Greater than 45 CrHrs.

**MFT2980A - Special Topics** - This is a special course in the area of Manufacturing Engineering Technology designed to give students the opportunity to pursue studies not otherwise offered in the degree program. 1-5 CrHrs. MFT2980A is repeatable to a maximum of 10 CrHrs. Graded S/U. Pre-Req: Department approval.

**MFT2990A - Individual Investigation** - MFT2990A is an independent investigation of an appropriate problem in the student's major field of interest. 1-5 CrHrs. MFT2990A is repeatable to a maximum of 10 CrHrs. Graded on a S/U basis. Pre-Req: Department approval.

**MGT0000A - MG Elective** - None

**MGT1400A - Introduction to Management** - Students will learn the fundamental principles of first-line management and their application in different work situations. This course introduces the five functions of the management process: planning, organizing, staffing, leading, and controlling. The focus of MGT1400A is to prepare the student for a supervisory role, emphasizing communication, delegation, motivation, and problem solving. 4 CrHrs. Pre-Req: None. Offered: F, W, Sp, Su.

**MGT1430A - Customer Relationship Management** - This course focuses on clear and usable processes for the kinds of skills, attitudes, and thinking patterns needed to win customer satisfaction and loyalty. The process includes developing specific skills for professional success by heightening awareness of the challenges and opportunities of customer service. Other topics include techniques for dealing with unhappy customers by using the power of customer expectations and by creating loyalty. 2 CrHrs. Pre-Req: None. Offered: F.

**MGT2010A - International Business** - This course applies a cross-functional, integrated approach to the study of international business. Using examples of companies from around the world, real-life case studies, videos, and classroom discussions, students will study business in a global perspective. Topics include international business environments and management, and international trade, investment, and financial systems. 4 CrHrs. Pre-Req: None. Offered: Sp.

**MGT2210A - Human Resource Management** - MGT2210A is a comprehensive review of essential personnel management concepts and techniques to provide students with necessary skills to manage human resources. Topics covered include the placement of personnel within the organization, securing human resources [recruiting, testing, interviewing, selecting, etc.], performance appraisal, training and employee development programs, compensation, incentives and benefits, safety, health, and other personnel issues. 4 CrHrs. Pre-Req: None. Offered: F.

**MGT2220A - Interviewing & Staffing** - This course will focus on strategic planning for hiring and retaining employees based on organizational mission, goals, and objectives. Key topics will include legal compliance, planning, job analysis and reward, recruitment, selection, and employment. Comprehensive coverage of the interview process, including the interpersonal process, types and uses of legal questions, and the structuring of interviews will be included. Lectures, case examples, and role play will be used. 4 CrHrs. Pre-Req: MGT2210A. Offered: Sp.

**MGT2400B - Workforce Development and Training** - This course focuses on employee development using a variety of training techniques and technologies. Topics include: establishing training objectives; needs assessment; various training methods using computer technology; principles of effective learning; and evaluation of training programs. Students will work in small groups and develop training packages for a chosen topic. 4 CrHrs. Pre-Req: OIS1240A. Offered: W.

**MGT2410A - Organizational Behavior** - This course is an advanced study of the field of management with an emphasis on the interaction between the individual and the organization. Topics covered include organizational structure and design, strategic management, leadership, conflict and change, organizational culture, organization power and politics, and group and team dynamics. 4 CrHrs. Pre-Req: MGT1400A. Offered: Sp.

**MGT2500A - Entrepreneurship and Small Business** - This course is a study of the special opportunities and risks presented in business. A small business plan is developed by students. This plan is used to demonstrate the importance of marketing, management, and finance in a small business venture. 4 CrHrs. Pre-Req: MGT2410A, ACC1400A, and MKT2030A. Offered: Sp.

**MGT2510A - Project Management** - Using a combination of management techniques and computer software, this course will prepare students to plan and track a project from conception to its completion. The student will use project management software [such as Microsoft Project] to enter the project's critical timelines, allocate resources, understand task dependencies, and track the impact of each of these elements to the desired project completion date. 4 CrHrs. Pre-Req: OIS1240A and MGT1400A. Offered: W.

**MGT2540A - Leadership** - This course is a study of leadership fundamentals essential for understanding, developing, strengthening, and practicing good leadership skills. Classroom focus is on enhancing the student's ability to lead, influence, motivate, empower, and foster positive attitudes through maximizing human relationships, effective communication, and key decision-making. Cases, exercises, self-assessments, and other interactive activities are included in this course. 4 CrHrs. Pre-Req: MGT1400A. Offered: W.

**MGT2980A - Special Topics** - This is a special course in the area of management designed to give groups of students the opportunity to pursue studies not otherwise offered in the degree program. Graded S/U. 1-5 CrHrs. Pre-Req: Department approval.

**MGT2990A - Individual Investigation** - MGT2990A is an independent investigation of an appropriate problem in the student's major field of interest. No more than four CrHrs. will apply toward graduation. Graded S/U. 1-5 CrHrs. Pre-Req: Department approval.

**MKT0000A - MK Elective** - None

**MKT1200A - Professional Sales** - Success in selling depends heavily on an individual's ability to develop relationship, product, customer, and presentation strategies. Because of this, MKT1200A students will develop the critical skills needed in this area through a variety of application activities, discussions, and a sales presentation project. This course emphasizes value-added strategies as well as partnership and relationship selling. 4 CrHrs. Pre-Req: None. Offered: Sp.

**MKT2030A - Principles of Marketing** - This course is an analysis of marketing role in organizations and society. MKT2030A includes development of marketing concepts and the role of the marketing process in fulfilling consumer needs and the planning of marketing activities by the firm. Development of a marketing plan is included in this course. 4 CrHrs. Pre-Req: OIS1240A or concurrent enrollment, and ECN2000A recommended or concurrent. Offered: F, W.

**MKT2150A - Principles of Advertising and Promotion** - In this class students will study the basic principles of advertising and promotion as they relate to the marketing mix. Basic advertising considerations will be introduced, such as writing advertising copy, design, production, planning, and coordination. 4 CrHrs. Pre-Req: MKT2030A or concurrent enrollment. Offered: F.

**MKT2200A - Public Relations** - This course covers the role of public relations in today's business organizations. MKT2200A includes an examination of the nature of public relations and the various tools of the field. The course incorporates theory with case studies as well as the practical nature of public relations work: communicating, writing, and solving problems. 4 CrHrs. Pre-Req: MKT2030A or concurrent enrollment. Offered: W.

**MKT2250A - Market Research in Consumer Behavior** - This capstone course in the marketing major examines marketing research methods and techniques used in the collection and interpretation of primary and secondary data as it applies to consumer buying behavior. Topics include attitude formation and change, motivation, personality, social/cultural influences, and their implications on marketing strategy. Students will complete a project requiring questionnaire design, implementation, evaluation, and presentation of results obtained with strategic recommendations. 4 CrHrs. Pre-Req: MKT2030A. Offered: Sp.

**MKT2980A - Special Topics** - This is a special course in the area of marketing designed to give groups of students the opportunity to pursue studies not otherwise offered in the degree program. Graded on a S/U basis. 1-5 CrHrs. Pre-Req: Department approval.

**MLT0000A - LT Elective** - None

**MLT1300A - Basic Medical Laboratory Techniques** - This course provides a basic introduction in the various areas of the clinical laboratory including phlebotomy, hematology, urinalysis, immunology, microbiology and chemistry. Pipettes, glassware, safety, metrics, quality assurance, medical ethics, and instrumentation are also discussed. Upon successful completion of this course, the student will be able to perform basic laboratory testing in the clinical/practicum experience. CrHrs. 3 Pre-Req: MLT majors only.

**MLT1310A - Phlebotomy** - This course provides the student with the theory and hands-on training to perform venipunctures and capillary skin puncture. The student is instructed in the anatomy and physiology of the circulatory system, specimen collection, specimen processing and handling, safety and quality control. Upon successful completion of this course the student will be able to perform phlebotomy in the clinical experience. 3 CrHrs. Pre-Req: Department approval.

**MLT1400A - Phlebotomy Clinical** - This course provides the student with 120 hours of clinical experience in phlebotomy. The student must perform 100 successful venipunctures, 25 capillary skin punctures, observe five [5] arterial punctures and participate in orientation in a clinical laboratory. Upon successful completion of this course the student will have entry-level skills as a phlebotomy professional. 3 CrHrs. Pre-Req: Department Approval.

**MLT1500A - Immunology** - This course provides a study of the immune system, the nature of immune responses and the application of this theory to laboratory testing, health and disease. Upon successful completion of this course the student will be able to perform routine immunological testing in the clinical experience. 4 CrHrs. Pre-Req: MLT1300A.

**MLT1700A - Clinical Chemistry** - This course applies introductory chemistry theory to the clinical chemistry laboratory. Topics include analysis of the chemical constituents in blood and body fluids, application of this information to health and disease, basic statistical methods and quality assurance. Techniques performed include manual and automated procedures. Upon completion of this course, the student will be able to perform routine clinical chemistry procedures and evaluate the results in the clinical experience. 8 CrHrs. Pre-Req: MLT1500A.

**MLT2000A - Clinical Microbiology** - This course is a study of the identification of microorganisms associated with disease. The student will learn to examine and culture various specimens, isolate, identify clinically significant microorganisms and perform antibiotic susceptibility tests. The student will also be introduced to medical mycology and parasitology. Upon completion of this course, the student will be able to perform routine clinical microbiology procedures and evaluate the results in the clinical experience. 8 CrHrs. Pre-Req: MLT1700A.

**MLT2250A - Immunoematology** - This course provides the student with the theory and instruction necessary to perform routine serological procedures used in any transfusion service or blood bank. Instruction is based upon the standards of the American Association of Blood Banks. Emphasis is placed on the recognition of serological discrepancies and incompatibilities and the resolution of these problems. Other topics include donor blood collection, component therapy, adverse transfusion reactions and hemolytic disease of the newborn. Upon successful completion of this course, the student will be able to perform routine pre-transfusion testing in the clinical experience. 8 CrHrs. Pre-Req: MLT2000A.

**MLT2400A - Body Fluids** - This course is a study of the physical, chemical and microscopic evaluation of urine and other non-blood body fluids and the correlation of results with disease. Upon successful completion of this course, the student will be able to recognize normal and abnormal results and will be able to perform routine urinalysis and evaluate the results in the clinical experience. 3 CrHrs. Pre-Req: MLT majors only.

**MLT2500A - Hematology/Coagulation** - This course is a study of normal and abnormal blood cells. Blood smears are prepared and studied for the identification of blood cells that aid in the diagnosis of anemia, leukemia, hemoglobinopathies, and other disease states. Included is the study of coagulation and the routine procedures used to evaluate hemostasis. Upon successful completion of this course, the student will be able to perform routine hematology procedures in the clinical experience. 8 CrHrs. Pre-Req: MLT2250A.

**MLT2620A - Hlt Care Issues: Medical Professionalism** - This course is a study of topics relevant to the health care environment including professional conduct, interpersonal and interdepartmental communication, and Health Insurance Portability and Accountability Act [HIPAA]. 1 CrHrs. Pre-Req: None.

**MLT2630A - Health Care: Medical Law and Ethics** - This course is a study of topics relevant to the health care environment including ethics, confidentiality, patient rights, and legal responsibilities. 1 CrHrs. Pre-Req: None.

**MLT2640A - MLT Case Studies** - This capstone course provides students with the opportunity to apply their technical knowledge to laboratory case studies and to review major areas of the curriculum. Students will take exams similar to the Registry Exam and must meet minimum scores. 2 CrHrs. Pre-Req: MLT2250A.

**MLT2810A - MLT Clinical** - This course provides the student with practical clinical experience in an affiliated hospital laboratory. Students will practice clinical procedures and correlate their results in the laboratory setting under the guidance of laboratory professionals. 8 CrHrs. Pre-Req: Department approval.

**MLT2820A - MLT Clinical Seminar** - This course consists of review and correlation of knowledge taught in the curriculum and preparation for the Registry Exam. Students will investigate professional development opportunities in health care. 2 CrHrs. Pre-Req: Department approval.

**MLT2980A - Special Topics** - This is a special Medical Laboratory Technology course designed to give groups of students the opportunity to pursue studies not otherwise offered in the degree program. Graded on a S/U basis. 1-5 CrHrs. Pre-Req: Department approval.

**MLT2990A - Individual Investigation** - This course offers students independent study designed to meet a specific need of the field of Medical Sciences Department. Students arrange the time and topic with the instructor. Graded on a S/U basis. 1-8 CrHrs. Pre-Req: Department approval.

**MSC0000A - MS Elective** - None

**MSC1000A - Introduction to Health Technologies** - Lecture topics include health care occupational descriptions, infection control, safety, human growth and development, legal issues, CPR, first aid, and vital signs. 2 CrHrs. Pre-Req: None.

**MSC1020A - Medical Terminology II** - The second of a two-part series, this course continues to build a workable medical vocabulary applicable to all specialties of medicine. Students will define, correctly spell, and pronounce commonly used words used in the following systems: nervous system, urinary systems, male genitourinary system, female reproductive system, endocrine system, eyes, ears, nose, and throat, psychiatry, oncology, radiology, and nuclear medicine. Basic anatomy and physiology and pathophysiology will be discussed for the body systems covered. 4 CrHrs. Pre-Req: MSC1010A.

**MSC1030A - Medical Terminology** - This course builds a workable medical vocabulary applicable to all specialties of medicine. The student will learn definitions, pronunciations, spelling and abbreviations of anatomical structures, symptomatic diagnostic and procedural terms pertaining to each medical specialty and body system. Medical terms will also include pharmacology, clinical laboratory, radiology, and surgery. Basic anatomy and physiology and human diseases will be covered for each body system. 4 CrHrs. Pre-requisite: None.

**MSC1110A - Human Diseases** - This course provides the student with an introduction to the pathology of human disease including signs and symptoms, etiology, diagnostic tests, treatment, and prevention. Associated pathological conditions in each anatomical body system and medical specialty will be discussed. The student will be expected to define common terms and apply principles of normal anatomy and physiology of the human body systems to the disease processes of common health problems. 5 CrHrs. Pre-Req: MSC1030A.

**MSC1140A - Medical Insurance and Billing** - This course is an introduction to the responsibilities and qualifications of the billing specialist, the legal aspects of the insurance industry including Medicare, Medicaid, managed care plans, private and employer-based insurance plans as well as Tricare and Worker's Compensation. It also includes the basic principles and guidelines for both ICD-9-CM and CPT-4 coding used in outpatient and ambulatory services for physician billing and reporting requirements. This knowledge is applied to third-party guidelines to ensure optimal reimbursements. In addition, this course covers the life cycle of an insurance claim, completion of CMS-1500 forms, and claims processing procedures. 4 CrHrs. Pre-Req: MSC1185A.

**MSC1185A - Medical Office Procedures** - This course emphasizes the administrative duties of the health care assistant. Topics of instruction include medical ethics and law, patient records, scheduling appointments, credit and collection, bookkeeping, health insurance, office maintenance, and communications. 5 CrHrs. Pre-Req: None.

**MSC1200A - Medical Transcription I** - This course combines the knowledge of medical terminology, a proficiency in keyboarding, and a working knowledge of transcription equipment. Medical reports of patients are transcribed from individual case studies. The reports included are history and physical examinations, radiology, operative, pathology, requests for consultations, discharge summaries, and autopsy. 4 CrHrs. Pre-Req: MSC1060A.

**MSC1450A - Pharmacy Tech Principles and Practices** - This course is designed as an overview of general pharmacy practice for the pharmacy technician. Topics include: mathematical calculations related to pharmacology, referencing, professionalism and ethics, prescription processing, repackaging and compounding, pharmacy stock and billing, and hospital pharmacy practice. CrHrs. 4 Pre-Req: Pharmacy Technician majors only.

**MSC1460A - Pharmacy Tech Principles and Prac II** - This course is designed to encompass an overview of the body systems and the classes of medications which we use to treat diseases and conditions, and will relate to the general pharmacy practice for the pharmacy technician. Topics include: body systems and medication classifications with specific treatment modalities. Pre-Req: MSC1450A.

**MSC1500A - Pharmacology for Allied Health** - This course focuses on the indications for use of the most commonly prescribed medications and classifications of drugs and their effects on the human body systems. 2 CrHrs. Pre-Req: MSC1020A or concurrent.

**MSC1550A - Pharmacy Technician Practicum** - Emphasizing the skills and knowledge covered in the curriculum, the student will gain real world experience within a pharmacy under the guidance of pharmacy professionals. 2 CrHrs. Pre-Req: Department approval

**MSC1560A - Pharmacy Technician Seminar** - This course consists of review and correlation of knowledge taught in the curriculum and preparation for the certification examination. 2 CrHrs. Pre-Req: Department approval

**MSC2990A - Individual Investigation** - This course offers students independent study designed to meet a specific need of the field of Medical Sciences Department. Students arrange the time and topic with the instructor. Graded on a S/U basis. 1-8 CrHrs. Pre-Req: Department approval.

**MTH0000A - MH Elective** - None

**MTH0970A - Basic College Mathematics** - MTH0970A is a review of fractions, exponents, decimals, ratios, and percentages with practical applications. Basic operations are stressed and the use of the electronic calculator is introduced. This course is graded on an A-F scale, however, the grade is not calculated in the quarterly or accumulative GPA. 4 CrHrs. Pre-Req: Numerical skills placement test.

**MTH0990A - Pre Algebra** - MTH0990A is a course in the fundamentals of algebraic expressions and equations, problem solving, and elementary algebraic theory and application. Included are operations with positive and negative numbers, the metric system, ratios, and proportions. Problem solving using the electronic calculator is included. This course is graded on an A-F scale, however, the grade is not calculated in the quarterly or accumulative GPA. 4 CrHrs. Pre-Req: MTH0970A or algebra placement test.

**MTH1010A - Business Algebra** - This course is designed to provide business students with a basic introduction to college algebra. Course content includes a review of real numbers, equations in one variable, and equations in two variables. MTH1010A is intended to give business students a basic understanding of algebra so that they can be successful in subsequent classes that use algebra such as Business Statistics. Emphasis is given to solving applied application problems. 2 CrHrs. Pre-Req: MTH0990 or BUS1100 or algebra placement test.

**MTH1015A - Basic Algebra** - This is a course in beginning algebra for Health Technologies and Human and Social Services students. It covers basic math skills, use of a scientific calculator, algebra (in one, two, and three variables), graphing, and basic statistics. This course is competency based with students progressing as they master each topic. It includes both classroom lectures and computer based learning activities.

**MTH1110B - Beginning Algebra** - This is a course in beginning college algebra. Course content includes a review of real numbers, equations in one and two variables, graphs and functions, exponents, polynomials, and factoring polynomials. MTH1110B is designed to provide an introduction to college algebra for students in all areas of study. Emphasis is given to solving applied application problems from the different curricula. 4 CrHrs. Pre-Req: MTH0990 or algebra placement test.

**MTH1120B - Intermediate Algebra** - This is a course in Intermediate College Algebra and is a continuation of MTH1110B. The course content includes radicals, rational exponents, complex numbers, quadratic equations, exponential functions, logarithmic functions, sequences, series, and the binomial theorem. MTH1120B is designed to provide advanced topics in college algebra for students in all areas of study. Emphasis is given to solving applied application problems from the different curriculums. 4 CrHrs. Pre-Req: MTH1110B or algebra placement test.

**MTH1200B - College Algebra** - This course covers Graphs, Functions and Their Graphs, Linear, Quadratic, Polynomial, Rational, Exponential, and Logarithmic Functions, and Systems of Equations and Inequalities. It is designed to prepare the student for Precalculus (MTH1210A). This course not only covers basic concepts but emphasizes practical uses of the topics covered through applied problems. Students are required to have either a TI-83 Plus or TI-84 Plus graphing calculator. This is a 5 CrHrs. course (4 hrs. lecture, 2 hr. lab). Pre-Req: MTH1120 or algebra placement test. This course is on the Ohio Transfer Module. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**MTH1210A – Precalculus** - This course is a continuation of College Algebra and Trigonometry (MTH1200A). Topics covered include analytic trigonometry, applications of trigonometric functions, polar coordinates and vectors, analytic geometry, systems of equations and inequalities, sequences, induction, the binomial theorem and a preview of calculus. Students are required to have either a TI-83 Plus or TI-84 Plus graphing calculator. This is a 5 CrHrs. course (4hrs. lecture, 2 hr. lab). Pre-Req: MTH1200. This course is on the Ohio Transfer Module. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**MTH1300A - Calculus I** - This is the first course in calculus. Topics include a) limits including limit theorems, limits involving trigonometric functions, limits at infinity, and continuity of functions, b) the derivative including rules for finding derivatives, derivatives of trigonometric functions, the chain rule, higher-order derivatives, implicit differentiation, and differentials and approximations, and c) applications of the derivative including maxima and minima, monotonicity and concavity, local extrema and extrema on open intervals, graphing functions using calculus, the mean value theorem for derivatives, antiderivatives, and introduction to differential equations. Calculators that can do symbolic differentiation and integration are not allowed. Examples of this type of calculator are the TI-89, TI Voyage 200, and the HP-48. CrHrs. 5 (4hrs. lecture, 2 hr. lab) Pre-Req: MTH1210 or placement test. This course is on the Ohio Transfer Module and TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**MTH1310A - Calculus II** - This is the second course in calculus. Topics include a) Applications of the Integral including Area of Plane Regions, Volumes of Solids, Length of Plane Curves, Work and Fluid Force, Moments and Center of Mass, and Probability b) Techniques of Integration and Differential Equations including Rules and Strategies of Integration, Trigonometric Integrals, Integration using Partial Fractions, First-Order Differential equations, and Approximations for Differential Equations c) Indeterminate Forms and Improper Integrals d) Infinite Series including Infinite Sequence and Series, Positive Series Tests, Power Series, and the Taylor Approximation e) Conics and Polar Coordinates including Parabola, Ellipses, and Hyperbolas, Translation and Rotation of Axes, the Polar Coordinate System, Graphs of Polar Equations, and Calculus in Polar Coordinates. This is a 5 CrHrs. course (4 hr. lecture, 2 hr. lab). Pre-Req: MTH1300. This course is on the Ohio Transfer Module and TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**MTH1320A - Calculus III** - This is the third course in Calculus. Topics include a) Sequences including infinite series, divergence, integral, ratio, root, and comparison tests; Power Series including approximating function and polynomials, and Taylor series; Parametric and Polar Curves including parametric equations, polar coordinates, and conic sections, Vectors including vectors in planes and three dimensions, dot and cross products, lines and curves in space, calculus of vector-valued functions, motion in space, length of curves, and curvature and normal vectors.

**MTH2990A - Individual Invstgtn** - None

**MU2030Z - University Chorus**

**NTR1000A - Intro Nutrition** - Students will receive an introduction to nutrient and food energy needs of the human biological system throughout the life cycle with consideration of socio-psychological factors. Emphasis is placed on current research findings on the effects of nutrition on health, performance, growth, and development. Nutrient needs during pregnancy, growth, aging, physical activity, and weight reduction will be considered. Also, the reliability of and sources for nutritional information will be discussed. 5 CrHrs. Pre-Req: None. This course is on the Ohio Transfer Module and TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**NUR0000A - NUR Elective** - None

**NUR1000A - Nurse Aide Training** - This course follows the guidelines set forth in the Omnibus Budget Reconciliation Act of 1987 and focuses on care of the elderly residents in long-term care facilities. Content includes an overview of the role of the nursing assistant, communication and interpersonal skills, infection control, safety and emergency procedures, promotion of residents' independence, protection of and respect for residents' rights, psychosocial needs and interactions, basic nursing skills, personal care skills, and restorative care skills. Critical thinking situations are an integral part of each class discussion. Satisfactory completion of this course prepares the student for the STNA exam. Students will be required to submit to a criminal background check. 6 CrHrs. [4 hrs. class, 4 hrs. lab weekly, and 16 additional hours of clinical]. Pre-Req: None.

**NUR1010A - Foundations of Nursing I** - This course provides an introduction to the field of nursing. The course is based on an integrated approach of basic nursing content areas that is client-family centered. Special emphasis is placed on the roles of the nurse, utilization of the nursing process, and the categories of human functioning. You will be assisted in the development of psychomotor skills for nursing care of elderly clients and introduced to basic pharmacology principles. The clinical component of the course provides you the opportunity to validate nursing skills and content. Students in NUR1010A will be required to submit to a criminal background check and drug screening. 8 CrHrs. [4 hrs. class, 2 hrs. lab, 10 hrs. clinical weekly]. Pre-Req: Department approval, and HLT 1000 and 1010 or equivalency and STNA course completed within 28 months prior.

**NUR1020A - Foundations of Nursing II** - This course continues an introduction to the field of nursing. The course is based on an integrated approach of basic nursing content areas that is client-family centered. Special emphasis is placed on the roles of the nurse, utilization of the nursing process, and categories of human functioning. You will be assisted in the development of psychomotor skills and pharmacology principles/skills. The course's clinical component provides you the opportunity to provide care for hospitalized adults on medical and surgical units. Topics include surgical nursing, diabetes, pain, inflammatory and rheumatic diseases, vascular disorders, eye, and ear. 8 CrHrs. [4 hrs. class, 2 hrs. lab, 10 hrs. clinical weekly]. Pre-Req: NUR1010A and SCI1110A.

**NUR1030A - Foundations Health of Women and Children** - There are two components in this course. Half the course is devoted to the health of childbearing women and their infants. The other half is an introduction to the nursing of children and their families. Students will utilize the nursing process, nursing roles, categories of human functioning with principles of growth and development in the nursing care of families, women, infants, and children. Students will have clinical learning experiences in pediatric, obstetric, and gynecologic settings. Students in NUR1030A may be required to submit to a criminal background check. 8 CrHrs. [4 hrs. class, 2 hrs. lab, 10 hrs. clinical weekly]. Pre-Req: NUR1020A and SCI1120A.

**NUR1040A - Transition** - This course is designed to assist the Licensed Practical Nurse [L.P.N.], or transfer, or returning student in the transition into the Marion Technical College Nursing [R.N.] Technology Program. The content will include the core threads from NUR1010A and NUR1020A. You will review basic skills and clinical applications. 6 CrHrs. [40 hrs. online class, 40 hrs. clinical, and 20 hrs. lab]. Pre-Req: Department approval.

**NUR1120A - CPR for Health Professionals** - Basic Life Support is designed to prepare a wide variety of healthcare professionals to recognize several life-threatening emergencies and to provide CPR, use of an AED, and relieve choking in a safe, timely and effective manner. The course includes adult, child, and infant rescue skills in both the community and hospital settings. Satisfactory completion of NUR1120A will result in American Heart Association basic life support certification for the Health Care Provider. 1 CrHrs. Pre-Req: None.

**NUR1130A - Success In Test Taking** - This course introduces a variety of test-success strategies for nursing students taking primarily multiple choice test questions. Course format includes one hour in class and one hour online per week. NUR1130A is suggested for nursing students experiencing difficulty with test-taking, time organization, note taking, or desiring enhancement of test-taking skills. 2 CrHrs. Pre-Req: None.

**NUR1150A - CPR & First Aid** - This Basic Life Support and First Aid course is designed to meet the needs of health care professionals who respond to cardiac emergencies, respiratory emergencies, and situations requiring first aid. The content of this course includes adult, child, and infant cardiopulmonary resuscitation [CPR], foreign body airway obstruction, and two-rescuer CPR. NUR1150A contains new information on barrier devices, stroke, and training on automated external defibrillation. This CPR course also includes background information about heart disease, risk factors, prudent heart living, and heart and lung function. Satisfactory completion of NUR1150A will result in American Heart Association basic life support certification for the Health Care Provider. The American Heart Association certification for Pediatric, Adult, and Universal First Aid is also included in this course. Manikins will be used for all skills. 2 CrHrs. Pre-Req: None.

**NUR1160A - Introductory Pharmacology for Nurses** - This course introduces students to fundamental principles of drug therapy. Emphasis is placed on teaching pharmacology through prototypes. NUR1160A integrates physiology, pathophysiology, and drug prototypes for the following class of drugs: cardiac, respiratory, renal, gastrointestinal, peripheral and central nervous systems, infectious diseases, and antiinflammatories. Information for the appropriate administration, assessment, care, evaluation, and education of the patient will be gained. 2 CrHrs. Pre-Req: SCI1110A, NUR 1010A, or concurrent enrollment, or department approval.

**NUR1170A - Dealing With Loss** - Students will investigate human reactions to death of self, children and adults. Students will study the cultural and situational factors of dying and how to provide effective support for a dying person and/or survivors. 2 CrHrs. Pre-Req: None.

**NUR1190A - Dosage Calculations** - This course is designed for the student interested in calculating medication dosages. Students will apply basic principles of algebra to identify correct amounts for oral, topical, and parenteral medications for pediatric and adult administration. 2 CrHrs. Pre-Req: High School algebra or MTH0990A.

**NUR2000A - Alterations in Psycho Social Functng** - Students will have the opportunity to care for clients and families with alterations in psychosocial functioning. Special emphasis is placed on the roles of the nurse, utilization of the nursing process, and the categories of human functioning. The milieu, functioning of the mental health team, client rights, standards of nursing care, types of therapies, personality development theories, and common mental health disorders are presented. Refinement of communication skills and the development of therapeutic relationships are accomplished for clients and families in a variety of settings. Students in NUR2000A may be required to submit to a criminal background check and drug screening. 6 CrHrs. [4 hrs. class and 6 hrs. clinical weekly]. Pre-Req: NUR1030A, SCI1130A, PSY1130A, and NUR 1040A if applicable.

**NUR2010A - Alterations in Functioning I** - Nursing roles, nursing process, and categories of human functioning are emphasized for the client/family with common chronic alterations in functioning. Additional knowledge will be gained for the maintenance of high level wellness and the prevention of disease. Beginning management and leadership theory is introduced. Students will practice advanced nursing skills in the campus laboratory. Students will have the opportunity to validate nursing knowledge in a variety of health care settings. Topics include diseases and surgical intervention for the respiratory, cardiac, and gastrointestinal systems. 10 CrHrs. [5 hrs. class, 2 hr. lab, 13 hrs. clinical weekly]. Pre-Req: NUR2000A.

**NUR2020A - Alterations in Functioning II** - As a continuation of NUR2010A, nursing roles, nursing process, and categories of human functioning are emphasized for the client/family with common alterations in functioning. Additional knowledge will be gained for the maintenance of high level wellness and the prevention of disease. Management and leadership skills are included in the clinical experience. Students will practice advanced nursing skills in the campus laboratory. Students will have the opportunity to validate nursing knowledge in a variety of health care settings. Topics include diseases and surgical intervention for the renal, nervous, and skeletal systems, as well as cancer and blood dyscrasias. 9 CrHrs. [5 hrs. class, 1 hr. lab, 11 hrs. clinical weekly]. Pre-Req: NUR2010A.

**NUR2030A - Alterations in Functioning III** - Nursing roles, nursing process, and categories of human functioning are emphasized for the client/family with acute and chronic alterations in functioning. Additional knowledge will be gained for the maintenance of high level wellness and the prevention of disease. Students will practice advanced nursing skills in the campus laboratory. Students will have the opportunity to validate nursing knowledge in a variety of health care settings, including specialized areas such as ICU, ER, and a preceptorship. Topics include diseases, surgical intervention, and emergency situations in the cardiac, respiratory, endocrine, and nervous systems, burn therapy, and multi-system failure. 9 CrHrs. [5 hrs. class, 1 hr. lab, 11 hrs. clinical weekly]. Pre-Req: NUR2020A.

**NUR2040A - Nursing Issues** - Change from student nurse to beginning practitioner of nursing will be assisted in this course. Students will develop an awareness of the historical influences, current status of the profession, professional relationships, nursing research, ethics and accountability, legal ramifications, nursing organizations, career opportunities, and role expectations. 2 CrHrs. Pre-Req: NUR2020A, ENG1100A, SOC1220A, and MTH 1015A or higher.

**NUR2110A - Basic EKG** - Basic EKG is for second-year student nurses, R.N.s, paramedics, advanced EMTs, or persons becoming monitor technicians. Students will learn basic dysrhythmias and treatment. The EKG is a valuable diagnostic tool and will allow early recognition of potentially life-threatening situations. 2 CrHrs. Pre-Req: Department approval.

**NUR2130A - IV Therapy/Nurses** - This course is designed for L.P.N.s who want to perform limited intravenous therapy consistent with the Ohio Board of Nursing, Chapter 4723 of the Administrative Code, Role of the Licensed Practical Nurses in Intravenous Therapy. 4 CrHrs. [36 hrs class and additional hours arranged for lab and clinical experience]. Pre-Req: Department approval

**NUR2980A - Special Topics** - This is a special course in the area of nursing designed to give groups of students the opportunity to pursue studies not otherwise offered in the degree program [ex. ACLS]. Graded on a S/U basis. 1-5 CrHrs. Pre-Req: Department approval.

**NUR2990A - Nursing Individual Investigation** - This course offers independent study designed to meet a specific student need in the field of nursing. Graded S/U. 1-4 CrHrs. Pre-Req: Department approval.

**OIS0000A - Office Information Elective** - None

**OIS1200A - Computer Basics** - With learner-centered instruction in this beginning course, students will learn the Windows operating system and the fundamentals of touch keyboarding techniques. OIS1200A will teach students to use Windows to organize data using files and folders, manipulate menus, customize the desktop, and work with application programs. In addition, students will learn to navigate the Internet and use e-mail. 2 CrHrs. Pre-Req: None. Offered: F, W, Sp, Su.

**OIS1230A - Workplace Technologies** - In this course, students will explore how to use a variety of electronic tools and productivity software packages commonly used in a workplace. Topics include digital camera, e-communication etiquette, scanners, PDAs, projectors, tablets PCs, symposiums, OneNote, and other technology. 2 CrHrs. Pre-Req: None. Offered: F.

**OIS1240A - Computer Applications I** - This integrated, project-based course will help students use the software applications Microsoft® Word, Excel, and PowerPoint to solve business problems. Students will use the Internet and e-mail as they research topics and prepare documents using the appropriate software applications. Course topics include technology history, future trends in technology, and the role of technology in a professional environment. Pre-Req: OIS 1200A or successful completion of the Technology skills test. Offered: F, W, Sp, Su.

**OIS1250A - Computer Applications II** - This integrated, project-based course is a continuation of Computer Applications I. Students will learn to use Microsoft® Access to create databases and will become proficient in using the Office fluent user interface of Microsoft® Word and Excel. Students will create spreadsheets to analyze business financial problems, manipulate databases to organize and retrieve business information, and use complex features to enhance the visual display and clarity of business documents. 4 CrHrs. Pre-Req: OIS1240A. Offered: W, Sp.

**OIS1260A – PowerPoint** - Students will use PowerPoint graphics software to create multimedia presentations that capture an audience's attention. Students will create, design, and modify presentations; work with visual elements; integrate data from other sources; create output; and deliver a presentation. 2 CrHrs. Pre-Req: OIS1240A. Offered: Sp.

**OIS1270B - Integrated Office Technologies** - Students will use business information management tools to communicate with others, manage information, meet virtually, and schedule daily activities. Digital tools including Personal Digital Assistants (PDAs) and Microsoft® software applications of Groove, OneNote, and Outlook will be explored. Other emerging technologies used in the office environment will be integrated throughout the course. 2 CrHrs. Pre-Req: OIS1240A. Offered: W.

**OIS1320A - Word Advanced** - Students will use advanced Microsoft® Word features to create a variety of business publications including brochures, fliers, and newsletters. This course also covers expert-user Word features such as creating fill-in forms; working with shared documents; recording, running, and editing macros; and integrating Microsoft® Office applications. 2 CrHrs. Pre-Req: OIS1240A. Offered: Sp.

**OIS1340A - Excel Advanced** - Using Excel, the student will organize, analyze, interpret, and present data. Expert Excel features covered include manipulating named ranges within formulas, using functions, using data validation, and integrating Microsoft Office applications. CrHrs. 2 Pre-Req: OIS1250A. Offered: Sp.

**OIS1500A - Web Page Authoring I** - Using a variety of software applications, students will learn to create, manage, and publish information on the Internet. Students will complete an extended study of audiences, design principles, copyrights, and accessibility. Students will design Web pages, create podcasts, and use a blog. 4 CrHrs. Pre-Req: OIS1240A. Offered: W.

**OIS1510A - Web Page Authoring II** - Using skills and concepts learned in Web Page Authoring I, students will continue to explore Web development through the use of the Adobe Creative Suite. The use of Flash will be the focus on the course. 4 CrHrs. Pre-Req: OIS1500A. Offered: Sp.

**OIS1520A - Scripting for the Web** - Students will be introduced to Web page languages which will be utilized in the class to create and modify Web sites. Hypertext Mark-up Language [HTML] elements will be explored. JavaScript will be used to provide interactivity on developed Web sites. 4 CrHrs. Pre-Req: OIS1510A or CIT1700A. Offered: F.

**OIS1600A - Design Fundamentals for Visual Media** - Students will explore the fundamentals and principles of art and develop problem-solving skills. Students will demonstrate an understanding of art concepts through the use of product-based projects. 5 CrHrs. Pre-Req: OIS1200 or TST and Interactive Media Major. Offered: F.

**OIS2010A - Video Technology & Techniques** - Students will utilize video cameras and movie editing software to create video for distribution on the Web. Principles of lighting, staging, camera use, post production, and distribution will be covered. 3 CrHrs. Pre-Req: OIS1240A. Offered: WI.

**OIS2050A - Records & Data Management** - This course is the study of the life cycle of business records with emphasis on the principles and procedures of creation, maintenance, storage, retrieval, retention, and disposal of these business records. The principles and procedures include the operation and control of manual and microcomputer storage systems. 2 CrHrs. Pre-Req: OIS1250A. Offered: Sp.

**OIS2220A - Office Technology Capstone** - This capstone course brings together all the skills learned in the Office Information Technology Program. Students will incorporate information management, problem solving, communications, and teamwork skills while working in a simulated business setting. Students will integrate advanced features of Microsoft® Office applications, Internet, e-mail, electronic scheduling, file management, event planning, and career portfolio development. 4 CrHrs. Pre-Req: Department approval. Offered: Sp.

**OIS2980A - Special topics** - This is a special course in the area of office information designed to give groups of students the opportunity to pursue studies not otherwise offered in the degree program. Graded S/U. 1-5 CrHrs. Pre-Req: Department approval.

**OIS2990A - Individual Investigation** - This is an independent investigation of an appropriate problem in the student's major field of interest. No more than five CrHrs. will apply toward graduation. Graded S/U. 1-5 CrHrs. Pre-Req: Department approval.

**OTA1010A - Conceptual Foundations of Occ. Therapy** - This course discusses knowledge on the nature, the history and the philosophy of occupational therapy in the United States. Students will also learn about meaningful occupation, purposeful activity, domains of practice and theoretical frameworks most commonly used in occupational therapy. Concepts like practice models and theoretical frameworks will be discussed. We will also discuss the basic tenets of occupational therapy and how they are applied, along with what roles meaningful occupation and purposeful activity have as related to health and human well-being. The Occupational Therapy Framework: Domain and Process will be studied. CrHrs. 4 (4 lecture, 0 lab).

**OTA1020A - Fundamental Skills for the OTA** - This course serves as the first building blocks for the OTA's professional foundations to include the teaching/learning process and therapeutic use of self. Social and cultural influences will be explored as they affect practice in occupational therapy. Students will explore the use of occupation, purposeful activity and activity/task analysis as means for assessment and intervention with clients. Students will also demonstrate competencies in the assessment of vital statistics, biomechanical components, professional communication skills, patient/caregiver/family education, body mechanics, documentation and other skills important for practice in clinical settings. Methods and techniques for screening, assessing and evaluation for occupational therapy performance strengths and problems will be introduced. The course will also study human performance and growth in areas of occupation (social participation, ADL, education, work, play and leisure) throughout the life span. CrHrs. 4 (3 lecture, 2 lab).

**OTA1030A - Occupation and Adaptation** - The course is a study of adapting, altering or designing environments that support participation and facilitate engagement in social, family and community activities. All levels of assistive technology will be reviewed and discussed. Topics include but are not limited to home modifications, driving evaluations, communication devices and community mobility. Students will evaluate participation limitations and facilitators for individuals and communities. A study of the concept of occupation across cultures and the human life span will be conducted. Topics include occupational analysis and selection, adaptation and sequencing of purposeful/meaningful activities. The course will introduce the student to a variety of assistive technology used in occupational therapy settings. Topics include PAMs, splinting, computer programs, switches, low vision adaptations, and high- and low-technology devices. CrHrs. 4 (3 lecture, 2 lab).

**OTA1040A - Professionalism, Ethics and Mgt. for the OTA** - AOTA Standards of Practice, as well as AOTA Code of Ethics, Core Values and Attitudes of Occupational Therapy are presented. The functions and influence of national, state and local occupational therapy associations are included. National laws and state policies affecting reimbursement and the practice of occupational therapy in the health care field will be discussed. Discussion of scenarios that require ethical and professional considerations will be pursued. The roles of the occupational therapist and occupational therapy assistant in practice and in management will be discussed. Students will be given the opportunity to build practice skills in mentoring, team building, role delineation, and professional communication. Professional advocacy and lifelong learning skills are included. Topics include program planning, marketing, advocacy and program quality improvement. Documentation, reimbursement, ethical and legislative issues will be addressed. This class will review requirements for Level II Fieldwork, certification and licensure. Students will prepare for future employment through resume and portfolio development. CrHrs. 2 (2 lecture, 0 lab).

**OTA1111A - OTA Fieldwork Level I and Seminar** - Four-week fieldwork experience designed to provide the OTA student the opportunity to work in a setting where occupational therapy is practiced under the supervision and tutelage of a professional in the field. Students must meet objectives designed by academic and clinical educators. CrHrs. 4 (1 Lecture, 24 Fieldwork).

**OTA1530A - Functional Anatomy** - In this class, students will learn functional anatomy as it relates to the field of physical therapy. Emphasis is placed on the study of the skeletal system, arthrology, and the origin, insertion, action, and innervation of major muscles. 4 CrHrs. [3 hrs. lecture, 3 hrs. lab].

**OTA1540A - Neural Plasticity & Occ. Performance** - Students will gain knowledge and skills necessary to treat clients with neurological disorders from CVA, traumatic brain injury, spinal cord injury, and birth defects. Use of PNF and NDT techniques in the treatment of neurological patients are discussed. The lecture and lab format is used to explore sensory and reflex integration, developmental sequence, and neonatal care. 4 CrHrs. [3 hrs. lecture, 3 hrs. lab].

**OTA2010A - The Child & Occupational Performance** - The course is a study of limitations and obstacles to occupational engagement (self-care, play, school) for persons from birth to age 22. Topics include common diagnoses, evaluation methods and treatment environments and treatment for areas of occupation. (ADL, IADL, education, work, play, leisure, and social participation), considering performance skills, performance patterns, client factors and context will be reviewed. Students will build practice skills in models of practice related to persons 0-22. CrHrs. 4 (3 lecture, 2 lab).

**OTA2020A - Physical Disability & Occupational Perf.** - This course involves the study of physical health limitations and obstacles to occupational engagement for individuals and populations. Topics include common diagnoses and treatment environments, interventions and treatments under areas of occupation (BADL, IADL, education, work, leisure and social participation). Students will be required to develop applications for enabling function and physical well-being. Topics include major medical, orthopedic, and neurological diagnoses, with emphasis on symptoms, physical conditions, and medical and social supports related to those diagnoses. Evaluations and treatment planning for the physical health population are practiced. course will focus on the development of observation skills; assessment; documentation; teaching; adapting; grading self-care, work, and play/leisure occupations for individuals with physical challenges. Topics include techniques and equipment to maximize participation in meaningful occupations, improve independence, ensure safety, and prevent deformity. CrHrs. 4 (3 lecture, 2 lab).

**OTA2030A - PsychoSocial Intervention & Occ. Performc** - The course is a study of mental health limitations and obstacles to occupational engagement for individuals and populations. Topics include common diagnoses and treatment environments, treatment for areas of occupation (ADL, IADL, education, work, play, leisure, and social participation), consideration of habits, performance patterns, component skills and context will be discussed. The course studies individuals who are limited in their ability to engage in life activities due to challenges to their mental health. Topics include major DSM IV diagnoses with emphasis on symptoms, behaviors, cultural influences, and medical and social supports related to those diagnoses. Evaluations and treatment planning for the mental health population are practiced. Students will research various psychosocial conditions with the focus on interventions, therapeutic activities, adaptations and compensations that can be made to facilitate human performance. Students will build practice skills in models of practice and treatment techniques related to psychosocial dysfunctions and will learn to apply therapeutic use of self, knowledge of group dynamics and other key techniques related to occupational therapy in mental health. CrHrs. 4 (4 lecture, 0 lab).

**OTA2040A - BioMechanical Intervention & Occ. Prfmnc** - This course focuses on the structure, function and movement of the musculoskeletal system as they apply to occupations of daily living skills. Technical proficiency of manual muscle testing, goniometric skills, treatment techniques and modalities are incorporated into this course. The course will study the kinetics of human motion of the musculoskeletal system of torso and upper extremities. Topics include evaluation procedures for range of motion, functional muscle strength and coordination testing, principles and techniques of body mechanics, transfers, positioning and motor learning theory. Splinting, physical agent modalities and other orthopedic interventions will be studied as they relate to occupational therapy, occupational performance and the upper extremity. CrHrs. 4 (3 lecture, 2 lab).

**OTA2050A - The Elderly & Occupational Performance** - The course studies physical and mental health limitations and obstacles to occupational engagement for individuals and populations living at home and in other geriatric settings. Topics include common diagnoses and treatment environments, treatment for areas of occupation. (ADL, IADL, education, work, play, leisure, and social participation), considering performance skills, performance patterns, client factors and context will be reviewed. Students will be required to develop applications for enabling function, as well as promoting mental health and physical well-being in the geriatric population. Driving and community mobility will be key topics discussed in the course. CrHrs. 4 (4 lecture, 0 lab).

**OTA2111A - OTA Fieldwork Level II A and Seminar** - First eight-week fieldwork experience designed to provide the OTA student the opportunity to work in an OT setting, under the supervision of an OTR or COTA. Students must meet objectives designed by academic and clinical educators. Pre-Req: All academic coursework and program director approval are required. Students must earn a grade of "C" or better in all coursework and a satisfactory rating on the Professional Behavioral Competence document before approval for Level II placement. CrHrs. 7 (1 Lecture, 40 Fieldwork).

**OTA2112A - OTA Fieldwork Level II B and Seminar** - Second eight-week fieldwork experience designed to provide the OTA student the opportunity to work in an OT setting, under the supervision of an OTR or COTA. Students must meet objectives designed by academic and clinical educators. Pre-Req: All academic coursework and program director approval are required. Students must earn a grade of "C" or better in all coursework and a satisfactory rating on the Professional Behavioral Competence document before approval for Level II placement. CrHrs. 7 (1 Lecture, 40 Fieldwork).

**OTA2510A - Clinical Conditions in OT** - Students will learn of neoplastic, infectious, metabolic, and inflammatory disorders affecting the cardiovascular, nervous, and musculoskeletal systems. Students will study the pathology of these common diseases and learn the role of the physical therapist assistant in treating these disorders. 4 CrHrs.

**PHI0000A - Philosophy Elective** - None

**PHI1300Z - Intro To Ethics** - The nature of right and wrong, good and evil; the grounds of moral choice and decision; the resolution of moral conflicts. 5 CrHrs. Pre-Req: Departmental Approval.

**PHY1200A - Physics Mechanics** - This is the first in a three course series in algebra-based physics. Students will study both kinematics and dynamics. Topics include motion in one and two dimensions, projectile motion, circular motion, Newton's laws, drawing and analyzing free-body diagrams, gravity, torque, static equilibrium, elasticity, impulse, and linear and angular momentum. 4 CrHrs. Pre-Req: MTH1120B or concurrent. Corequisite: PHY1201A

**PHY1201A - Physics: Mechanics Lab** - This lab class supports topics and concepts covered in Physics: Mechanics. Students will complete nine hands-on experiments that will help them verify physical principles like projectile motion, static and kinetic friction, Newton's laws, and air resistance. Students are required to completely document each lab and keep a comprehensive notebook consisting of all data and reports. In these reports students will be required to show how the data supports each concept covered in each lab. 1 CrHrs. Corequisite: PHY1200A

**PHY1210A - Physics: Matter & Waves** - This is the second in a three course series in algebra-based physics. Topics include work, kinetic energy, potential energy, power, heat, the first and second laws of thermodynamics, atomic model of matter, thermal expansion, pressure, specific heat, calorimetry, heat transfer, fluids, density, buoyancy, harmonic motion, pendulum motion, traveling waves, sound waves, light waves, energy and intensity, Doppler effect, standing waves, interference of waves, beats, interference of light, reflection,

refraction, ray diagrams, color, dispersion, and images from mirrors and lenses. 4 CrHrs. Pre-Req: PHY1200A. Corequisite: PHY1211A

**PHY1211A - Physics: Matter & Waves Lab** - This lab class supports topics and concepts covered in the Physics: Matter & Waves (PHY1200A) lecture class. Students will complete eight hands-on experiments that will help them verify physical principles like force and motion, static and kinetic friction, Newton's laws, air resistance, and collisions. Students are required to completely document each lab and show how the data supports each concept covered in that lab. 1 CrHrs. Corequisite: PHY1210A

**PHY1220A - Physics: Electricity & Magnetism** - This is the third in a three course series in algebra-based physics. Topics include charges and forces, Coulomb's law, electric fields, electric potential energy, the electrical potential, capacitance and capacitors, polarization and dielectrics, direct current, resistors, Ohm's law, circuit elements and diagrams, Kirchhoff's laws, parallel and series circuits, complex circuits, magnetism, magnetic fields, forces on moving charges, induced currents, magnetic flux, Faraday's law, electromagnetic waves, photons, the electromagnetic spectrum, alternating current, transformers, capacitor circuits, inductors, inductor circuits, RLC circuits, and oscillation circuits. 4 CrHrs. Pre-Req: PHY1210A. Corequisite: PHY1221A

**PHY1221A - Physics: Electricity & Magnetism Lab** - This lab class supports topics and concepts covered in the Physics: Electricity & Magnetism (PHY1220A) lecture class. Students will complete eight hands-on experiments that will help them verify physical principles like Ohn's law, series and parallel circuits, capacitance, inductance, and ac circuits. Students are required to completely document each lab and show how the data supports each concept covered in that lab. 1 CrHrs. Corequisite: PHY1220A

**PHY1240B - Principles of Electricity and Magnetism** - This course introduces the student to the basic principles of physics with emphasis on electricity and magnetism. It covers both ac and dc electrical devices and the relationships between electricity and magnetism. The course is designed to provide the student with not only a basic knowledge of electricity and magnetism but also an understanding of real world applications. To prepare the student to understand electricity and magnetism, additional topics include forces, work, energy, power, and atomic nature of matter. Topics in electricity and magnetism include electrical forces and fields, currents, electrical circuits, magnetic forces and fields, capacitance, electromagnetic induction and transformers. 4 CrHrs. Pre-Req: None

**PHY1300A - Applied Physics I** - This is the first in a two-course series in applied engineering physics. Topics include vectors, motion, force, momentum, concurrent and parallel forces, work and energy, rotational motion, simple machines, universal gravitation and satellite motion. 5 CrHrs. Pre-Req: TMT1500B

**PHY1350A - Applied Physics II** - This is the second in a two-course series in applied engineering physics. Topics include matter, fluids, temperature and heat transfer, properties of gasses, wave motion and sound, basic electricity, magnetism, alternating current, light, reflection and refraction, and color. 5 CrHrs. Pre-Req: PHY1300A

**PLG1100A - Principles of Legal Research & Writing** - PLG1100A teaches the rudiments of electronic legal research. Students will learn how to interpret primary and secondary authority and apply those concepts to practical problems as they draft legal memoranda and briefs. The legal citation style as adopted by the Supreme Court of Ohio is used for documentation. 4 CrHrs. Pre-Req: None. Offered: W 2011

**PLG1110A - Advanced Legal Research & Writing** - A continuation of PLG1100A, this course applies the research and writing skills gained to answer legal problems. Students will write and correct legal memoranda and motions on a weekly basis. The course is individualized to the extent that students will receive individual writing assignments. 4 CrHrs. Pre-Req: PLG1100A. Offered: Sp 2011

**PLG1200A - Tort Law** - PLG1200A covers the laws of torts and defenses that are available in tort actions. Students will prepare a legal complaint alleging a tort. 4 CrHrs. Pre-Req: None.

**PLG1300A - Family Law** - PLG1300A focuses on the family: marriage, annulments, divorce, property rights and distribution, children, spousal support, separation agreements, adoptions, and parent and child law. Students in PLG1300A learn to prepare complaints and calculate child support. 4 CrHrs. Pre-Req: None.

**PLG2000A - Business Organizations** - PLG2000A focuses on the formation and operation of business entities including sole proprietors, partnerships, limited liability entities, and corporations. Students will learn to prepare partnership agreements, articles of incorporation, and corporate bylaws. 4 CrHrs. Pre-Req: None.

**PLG2100A - Civil Procedures** - PLG2100A covers all aspects of civil litigation. This course emphasizes the practical application of the Ohio Rules of Civil Procedures. Students will prepare complaints and answers. 4 CrHrs. Pre-Req: None.

**PLG2150A - Criminal Law and Procedures** - PLG2150A presents criminal law and procedure from a paralegal's point of view and is not a mere recitation of the elements of criminal offenses. The focus is on the documents prepared in either a criminal prosecution or defense. 4 CrHrs. Pre-Req: None.

**PLG2200A - Estate/Probate Administration** - PLG2200A covers decedent's estates, both testate and intestate. It begins with preparation for death, including will preparation, estate planning, health care powers of attorney, living wills, inter vivos and testamentary trusts, and funeral planning. It concludes with the probate procedure for wrapping up the decedent's final affairs, paying his or her final expenses, and distributing the remainder, if any, to the decedent's beneficiaries or heirs. 4 CrHrs. Pre-Req: None.

**PLG2500A - Debtor/Creditor Relationships** - PLG2500A examines the various rights and remedies available to the debtor and creditor in resolving legal disputes. This course covers the complete financial transaction from application through either payment or debt collection process. This course includes a review of the Fair Credit Reporting Act and the means of repairing incorrect information contained on a credit report. It also covers the Fair Debt Collection Practices Act. Finally, it examines collection practices such as garnishment, seizure of property, judgment liens and foreclosure before concluding with a discussion of bankruptcy. Students will prepare documents applicable throughout this process including a bankruptcy petition. 4 CrHrs. Pre-Req: None.

**PLG2950A - Administrative Law & Dispute Resolution** - This course looks at the law and processes of various administrative agencies. Advocacy skills before administrative agencies like the Industrial Commission, Ohio Department of Job and Family Services, and Social Security will be presented. Various forms of Dispute Resolution will be discussed. Students will specifically learn the skills and theories of mediation. 4 CrHrs. Pre-Req: None. Offered: W 2011

**PLG2980A - Special Topics** - PLG2980A offers students the opportunity to pursue studies not offered in the degree program or to perform special research for a practicing attorney. Graded S/U. 1- 4 CrHrs. Pre-Req: Department approval.

**PLG2990A - Individual Investigation** - PLG2990A is an independent investigation of an appropriate problem in the student's major field of interest. No more than 4 CrHrs. will apply toward graduation. Graded on a S/U basis. CrHrs. 1 -4 Pre-Req: Department approval

**PSY0000A - PS Elective** - None

**PSY1000A - Skills for Success** - Skills For Success is designed to increase college success. The course will focus on developing practical study skills techniques to enhance academic success. Topics include time management, test taking, communication skills, study techniques, and personal issues that face many college students. Graded S/U. 2 CrHrs. Pre-Req: None.

**PSY1010A - Career Planning for the 21st Century** - Through investigation of occupational clusters and self-evaluation techniques, students will learn a process for making sound life/career decisions that prepare them for the 21st century. PSY1010A presents a multitude of techniques to aid in decision formulation. The mentoring process will be explored for understanding and utilization. Written and oral communication skills will be demonstrated as well as a better understanding of how the life/career decision-making process affects human behavior. 2 CrHrs. Pre-Req: None.

**PSY1020A - Orientation to College** - Orientation to College is a stepping stone for later success at the college. The course will provide students with information about technology access and function, development of an educational plan, library use, and interaction in the classroom, with faculty, and administrative offices. 2 CrHrs. Pre-Req: None.

**PSY1120A - General Psychology** - PSY1120A is an introduction to theories and techniques used by psychologists for describing, explaining, predicting and influencing human behavior. Topics covered include learning, cognition, intelligence, motivation, emotion, personality and abnormal behavior. 5 CrHrs. Pre-Req: None. This course is on the Ohio Transfer Module and TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**PSY1125A - Social Psychology** - This course is designed to balance research and applications, covering social cognition, attitude formation and change, conformity/obedience, group processes, pro-social behavior, aggression, and stereotyping/prejudice. 5 CrHrs. Corequisite: PSY1120A, General Psychology. This course is on the Ohio Transfer Module and TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**PSY1130A - Human Growth and Development** - This class provides an advanced study of human development over the life span, from conception to death. Included are emotional, intellectual, moral, physical, and social development. PSY1130A offers an analysis of the interaction of human characteristics within the individual and the relationship between individuals and their environment at various stages in development. 5 CrHrs. Pre-Req: PSY1120A. This course is on the Ohio Transfer Module and TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**PSY2980A - Special Topics** - This is a special course, in the area of psychology, designed to give groups of students the opportunity to pursue studies not otherwise offered. Graded on a S/U basis. 1-5 CrHrs. Pre-Req: Department approval.

**PSY2990A - Individual Investigation** - The student works independently in an area of psychology not provided in other psychology courses. A reading, research, or writing project or problem is jointly selected by a supervising instructor and the student. Graded on a S/U basis. 1-5 CrHrs. Pre-Req: Department approval.

**PTA1000A - Physical Properties in Rehabilitation** - This course covers the basic laws of physics as they apply to health professionals. Students will learn how to apply vector mechanics to both static and accelerated mechanical situations. The concepts of work, energy, and momentum are studied and applied to both straight line and circular motion. Vibrations and waves cover various vibrating systems including sound and light waves. Students will also learn AC and DC electrical circuits. CrHrs. 4 Pre-Req: Admission to PTA major only.

**PTA1010A - Introduction to Physical Therapy** - The student is exposed to Physical Therapist Assisting and its role within the health care system. Various aspects of the profession are explored including the historical development of Physical Therapist Assisting. Standards of practice, communications, as well as basic physical therapist assisting skills are covered. The students learn common medical abbreviations and basic documentation of common treatments rendered in physical therapy. CrHrs. 4 [3 hrs. lecture, 3 hrs. lab]. Pre-Req: Admission to PTA majors only

**PTA1020A - Therapeutic Procedures & Modalities I** - This course provides an overview of the basic application of physical therapy skills. Students are instructed in patient positioning, draping, and transfer techniques. Students also learn aspects of proper body mechanics. Instruction includes theories and application of heat, cold, light, water, ultrasound, therapeutic massage, and intermittent compression. Gait instruction and postural analysis with selection and fitting of assistive ambulatory devices is taught in a classroom and laboratory setting. CrHrs. 4 (3hrs lecture, 3hrs lab). Pre-Req: PTA1000A, PTA1010A, and SCI1110A.

**PTA1030A - PTA Functional Anatomy** - In this class, students will learn functional anatomy as it relates to the field of physical therapy. Emphasis is placed on the study of the skeletal system, arthrology, and the origin, insertion, action, and innervation of major muscles. 4 CrHrs. [3 hrs. lecture, 3 hrs. lab]. Pre-Req: PTA1020A, and SCI1120A.

**PTA1040A - Therapeutic Exercise** - This course covers theory and skills of the practical application of Therapeutic Exercise. PTA1040A includes the application of manual muscle testing results and instruction in the areas of ROM, AROM, AAROM, Progressive Resistive Exercise, stretching, coordination, balance, relaxation, aquatic therapy, general fitness, and sports medicine. Continued study of posture and its relationship with exercise, as well as a multitude of orthopedic pathologies and appropriate therapeutic exercise programs, are included. 4 CrHrs. [3 hrs. lecture, 3 hrs. lab]. Pre-Req: PTA1020A, and SCI1120A.

**PTA1050A - PTA Kinesiology** - This course involves the review of basic functional anatomy and an in-depth analysis of human motion. The biomechanics of each joint will be discussed along with common orthopedic joint dysfunctions and special tests. Participants will also examine the gait cycle, and identify possible causes for abnormal gait. An overview of peripheral joint mobilization will also be introduced. Detailed goniometry and manual muscle testing will be the focus of lab content. CrHrs. 4 [3 hrs. lecture, 3 hrs. lab]. Pre-Req: PTA1020A and SCI1120A.

**PTA2100A - Directed Clinical Practice I** - Students perform clinical work off-campus under the supervision of a licensed physical therapist or physical therapist assistant serving as a clinical instructor and mentor. This course introduces the student to the practice of Physical Therapist Assisting. CrHrs. 4 [40 clinical hours per week for 5 weeks]. Pre-Req: PTA1030A, PTA1040A, PTA1050A, and concurrent enrollment in PTA2150A.

**PTA2150A - PTA Seminar I** - Students relate clinical highlights and experiences through classroom presentations, share a collective diary of clinical experiences, and review journal notations. Students also participate in a written and oral case study and complete cumulative examinations regarding aspects of clinical education. CrHrs. 1 [10 contact hours of intensive study following PTA2100A]. Pre-Req: PTA1030A, PTA1040A, PTA1050A, and concurrent enrollment in PTA2100A.

**PTA2210A - PTA Pathophysiology** - Students will learn of neoplastic, infectious, metabolic, and inflammatory disorders affecting the cardio-pulmonary, nervous, and musculoskeletal systems. Students will study the pathology of these common diseases and learn the role of the physical therapist assistant in treating these disorders. 4 CrHrs. Pre-Req: PTA2150A and PTA2100A.

**PTA2220A - Therapeutic Procedures & Modalities II** - This course utilizes a lab and lecture format to introduce the study of electrical stimulation for pain relief and muscle stimulation. Modalities learned in this course include TENS, MENS, functional muscle stimulation, and applications utilizing high voltage, low voltage, and medium frequency current. Biofeedback, ultrasound with electrical stimulation, and iontophoresis techniques are also learned. Instruction on wound care and spinal traction are included. 4 CrHrs. [3 hrs. lecture, 3 hrs. lab]. Pre-Req: PTA2150A and PTA2100A.

**PTA2300A - Directed Clinical Practice II** - A licensed physical therapist or physical therapist assistant clinician serves as mentor and clinical instructor. Students work in an off-campus clinical environment where they continue to apply skills gained from classroom instruction. CrHrs. 4 [24 clinical hours per week for 6 2/3 weeks]. Pre-Req: PTA2100A and completion of or concurrent enrollment in PTA2210A and PTA2220A.

**PTA2990A - Individual Investigation** - This course offers independent study designed to meet a specific student need in the field of physical therapist assisting. Graded S/U. CrHrs. 1 - 5 Pre-Req: Department approval.

**PTA3030A - Rehabilitation For Specific Populations** - Orthopedic, cardiac, and pulmonary dysfunctions are studied. The aging process is explored as well as its relationship to the practice of physical therapist assisting. Students will study postural drainage and percussion techniques, and gain experience in burn medicine, prosthetics, and orthotics. Students will also learn the role of a physical therapist assistant in treating patients in obstetrics/gynecological and geriatric populations. 4 CrHrs. [3 hrs. lecture, 3 hrs. lab]. Pre-Req: PTA2210A and PTA2220A.

**PTA3040A - Neurological Rehabilitation** - Students will gain knowledge and skills necessary to treat clients with neurological disorders from CVA, traumatic brain injury, spinal cord injury, and birth defects. Use of PNF and NDT techniques in the treatment of neurological patients are discussed. The lecture and lab format is used to explore sensory and reflex integration, developmental sequence, and neonatal care. 4 CrHrs. [3 hrs. lecture, 3 hrs. lab]. Pre-Req: PTA2210A and PTA2220A.

**PTA3100A - Directed Clinical Practice III** - This course is a continuation of the clinical practice experience gained in PTA2100A and PTA2300A. A licensed physical therapist or physical therapist assistant serves as a mentor and clinical instructor. This course offers the student the opportunity to use skills gained during classroom instruction in an off-campus setting. CrHrs. 8 [40 clinical hours per week for 8 weeks]. Pre-Req: PTA2300A, PTA3030A, PTA3040A and concurrent enrollment in PTA3150A and PTA3200A.

**PTA3150A - PTA Seminar II** - This course serves to review the PTA curriculum in preparation for the National Physical Therapy Examination for licensure. PTA3150A will include discussions of the experiences and learning encountered

during the final clinical experience. A mock licensure examination and cumulative written and practical examinations will be conducted. CrHrs. 2 [20 contact hours of intensive study following completion of PTA3100A]. Pre-Req: PTA3030A and PTA3040A and concurrent enrollment in PTA3100A and PTA3200.

**PTA3200A - PTA Seminar III** - In this course students will explore issues affecting the practice of physical therapist assisting within the modern health care system. Résumé, cover letter, and resignation letter composition is learned. Mock employment interviews will be conducted. A variety of related topics will be presented, including licensing procedures. CrHrs. 2 [20 contact hours of intensive study following completion of PTA3100A]. Pre-Req: PTA3030A, PTA3040A, and concurrent enrollment in PTA3100A and PTA3150A.

**RAD1000A - Introduction to Radiologic Technology** - This is an orientation to radiologic technology. Student and technologist responsibilities are outlined, as well as their role in the health care delivery system. Basic principles of radiation protection are introduced. 4 CrHrs. Pre-Req: Department approval.

**RAD1010A - Methods of Patient Care** - This course will provide the student with basic concepts of patient care, including consideration for the physical and psychological needs of the patient and family. Routine and emergency patient care procedures will be described, as well as infection control procedures utilizing standard precautions. Methods and techniques of contrast administration, as well as categories will be discussed. Medical ethics is included. 3 CrHrs. Pre-Req: Department approval.

**RAD1020A - Radiographic Positioning & Procedures I** - This unit is designed to provide the student with the knowledge and skills necessary to perform standard radiographic procedures of the chest, abdomen, upper and lower extremities, pelvis and hip. Positioning terminology is defined and applied clinically. 5 CrHrs. [2 hours lab]. Pre-Req: Department approval.

**RAD1030A - Radiographic Positioning & Procedures II** - This course includes a study of procedures of the digestive, biliary, and urinary systems. Also spine and bony thorax are included. Contrast media is discussed. 5 CrHrs. [2 hours lab]. Pre-Req: RAD1020A.

**RAD1040A - Radiographic Positioning & Procedures III** - This course is a study of procedures involving mobile radiography, all radiographic headwork, pediatric, reproductive and respiratory systems, portable, surgical procedures, and trauma are included. 5 CrHrs. [2 hours lab]. Pre-Req: RAD1030A.

**RAD1050A - Radiation Physics** - This course includes fundamentals of x-ray generating equipment, beam characteristics, and the production of x-rays. 2 CrHrs. Pre-Req: PHY1240A.

**RAD1060A - Principles of Radiographic Exposure** - This course will provide the student with knowledge of factors that govern and influence the production of the radiographic image on the image receptor. Processing the image and computed radiography are included. Concepts in exposure technique are discussed. 5 CrHrs. Pre-Req: Department approval.

**RAD1100A - Radiologic Technology Clinical I** - This course is a clinical application of radiographic procedures. This includes scheduled clinical rotation assignments. All clinical courses include scheduled monthly film critiques. There is some observation time at onset of program. A clinical lab is required in all clinical courses. 3 CrHrs. Pre-Req: Department approval.

**RAD1200A - Radiologic Technology Clinical II** - This is a continuation of Clinical I, emphasizing more complex diagnostic procedures. Students work toward completing required competencies. Refer to clinical section of handbook. 2 CrHrs. Pre-Req: RAD1100A.

**RAD1300A - Radiologic Technology Clinical III** - This course is a clinical application of procedures studied this quarter. Students continue to work toward competency of all required radiographic examinations. 3 CrHrs. Pre-Req: RAD1200A.

**RAD2020A - Imaging Equipment** - This course is a study of the principles of operation of fluoroscopic, CT, interventional and mammography equipment. Direct digital imaging and digital fluoroscopy are included. Basic quality assurance methods are included. 2 CrHrs. Pre-Req: RAD1050A.

**RAD2030A - Principles of Radiobiology** - This is an advanced study of the interaction of radiation on living systems. Included with biological responses are chronic and acute radiation effects, and a more in-depth look at radiation safety practices. 1 CrHrs. Pre-Req: Department approval.

**RAD2040A - Advanced Imaging Procedures** - This course provides an in depth description of diagnostic procedures within the following areas: cardiovascular interventional, computed tomography, mammography, magnetic resonance imaging, nuclear medicine, ultrasound, and venipuncture. Sectional anatomy is included. Students will be required to identify anatomy on different planes and imaging modalities. 3 CrHrs. Pre-Req: RAD1040A.

**RAD2050A - Radiographic Pathology** - Each system of the body is studied with regard to major pathological diseases and how the diseases are demonstrated radiographically. Different types of cancer and treatment are discussed. Students are required to give a case presentation. 2 CrHrs. Pre-Req: Department approval.

**RAD2060A - Radiographic Review I** - RAD2060A is a review of all required program courses. A comprehensive test is used to evaluate comprehension of course material at the end of each quarter. The comprehensive tests from previous quarters are averaged for a final grade. RAD2060A is graded on a S/U basis. 1 CrHrs. Pre-Req: Department approval.

**RAD2070A - Radiographic Review II** - This course is a continuation of RAD2060A. Students will be required to take mock registry tests. RAD2070A is graded on a S/U basis. 1 CrHrs. Pre-Req: RAD2060A.

**RAD2100A - Radiologic Technology Clinical IV** - Students can continue working toward clinical competency. Clinical rotations are scheduled. 5 CrHrs. Pre-Req: RAD1300A.

**RAD2200A - Radiologic Technology Clinical V** - This is a continuation of Clinical IV. 3 CrHrs. Pre-Req: RAD2100A.

**RAD2300A - Radiologic Technology Clinical VI** - This is a continuation of Clinical V. 3 CrHrs. Pre-Req: RAD2200A.

**RAD2400A - Radiologic Technology Clinical VII** - This is a continuation of Clinical VI. In this final clinical rotation, the students may be tested randomly over any required competency. This is done to ensure that the student is retaining the necessary skills required of a radiographer. Clinical rotations are scheduled. 3 CrHrs. Pre-Req: RAD2300A.

**RAD2990A - Individual Investigation** - This course offers independent study designed to meet a specific student need in the field of radiography. Graded S/U. 1-4 CrHrs. Pre-Req: Department approval.

**REA0000A - RE Elective** - None

**REA1010A - Real Estate Principles and Practices I** - This is an introductory course designed for those interested in entering the real estate field as sales persons or brokers, as well as for the general public. REA1010A covers the general background of real estate law, terminology, practice, and procedures. Topics also include an extensive coverage of real estate mathematics. 4 CrHrs. Pre-Req: None. Offered: F.

**REA1100A - Real Estate Law** - REA1100A focuses on the areas of law pertinent to real estate and those interested in becoming sales persons and brokers. This includes land as property, fixtures, estates and interests in land, deeds, contracts, finance, foreclosure, liens, the real estate closing, proof of title, agency, licensure, fair housing, zoning, landlord-tenant law, ethics, and decedents' estates. 4 CrHrs. Pre-Req: None. Offered: F.

**REA1200A - Real Estate Finance** - REA1200A explores the financial aspects of real estate with primary consideration being toward the fundamentals of mortgage banking, sources of funds for mortgage lending, loan application procedures and processing, inspection and appraisal of collateral, attracting new business, investing, and the effects of governmental monetary and fiscal policies. 2 CrHrs. Pre-Req: REA1010A recommended. Offered: F.

**REA1300A - Real Estate Appraisal** - This class includes definitions and terminology of real estate appraising, analyzing the real estate market, and explaining the appraisal process. Students will explore basic approaches to an estimate of value-cost, income and market data as well as the mechanics of inspecting and measuring improvements, and cost estimating. A term case study project is assigned providing practical experience in writing an appraisal report for a single family residence. 2 CrHrs. Pre-Req: REA1010A recommended. Offered: F.

**SCI0000A - SC Elective** - None

**SCI1010A - Principles of Biology and Chemistry** - This introductory science course covers basic concepts in chemistry and biology. The chemistry includes atomic structure, periodic table, chemical formulas, chemical bonds, organic compounds, acids/bases, and macromolecules. The biology includes cell structure and function, mitosis/meiosis, tissues and an overview of the digestive, respiratory and circulatory systems. 5 CrHrs. Pre-Req: None.

**SCI1060A - Basic Anatomy and Physiology** - The student will learn to recognize the structure, understand the physiology and use the correct terminology to describe components of each of these body systems: integumentary, skeletal, muscular/joints, nervous, cardiovascular, immune/lymphatic, endocrine, respiratory, digestive, urinary, and reproductive. 6 CrHrs. Pre-Req: MSC1030A

**SCI1110A - Anatomy and Physiology I** - This is the first of a two-course sequence. This course has a laboratory component which relates chemistry to anatomy. The lab then focuses on the structures of tissues and the skeletal, muscular and cardiovascular systems. The lecture component emphasizes the physiology of these systems. 6 CrHrs. [4 hrs. class, 4 hrs. lab]. Pre-Req: SCI1010A or equivalent. This course is on the Ohio Transfer Module. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**SCI1120A - Anatomy and Physiology II** - This is the second of a two-course sequence. The laboratory emphasizes the anatomy of the nervous, respiratory, endocrine, urinary, digestive and reproductive systems. The lecture covers the physiology of all of the above plus metabolism, acid base balance, and fluid and electrolytes. 6 CrHrs. [4 hrs. class, 4 hrs. lab]. Pre-Req: SCI1110A [minimum grade of C] or department approval. This course is on the Ohio Transfer Module. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**SCI1130A - Microbiology** - This is an introductory course designed to give the student an understanding of microorganisms which have a relation to the health sciences. Principles of infection and resistance will be included. The laboratory component allows the student to become proficient in basic microbiological techniques. 6 CrHrs. [4 hrs. class, 4 hrs. lab]. Pre-Req: SCI1120A [minimum grade of C] or department approval. This course is on the Ohio Transfer Module. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**SCI2000A - Advanced Human Physiology** - Students will learn about cellular organization, homeostasis, intercellular communication, and acid/base chemistry. Students will also learn the physiology of the respiratory, excretory, digestive, cardiovascular, and endocrine systems. The lab will demonstrate physiologic principles. 6 CrHrs. [4 hrs. class, 2 hrs. lab]. Pre-Req: Anatomy and Physiology II. This course is on the Ohio Transfer Module. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**SCI2980A - Special Topics** - This is a special course in the area of natural sciences designed to offer groups of students the opportunity to pursue studies not otherwise offered. Graded on a S/U basis. 1-5 CrHrs. Pre-Req: Department approval.

**SCI2990A - Individual Investigation** - Students will work independently in an area of science not provided in other science courses. A reading, research, or writing project or problem is jointly selected by a supervising instructor and the student. Graded on a S/U basis. 1-2 CrHrs. Pre-Req: Department approval.

**SOC0000A - SO Elective** - None

**SOC1010Z - Introduction to Sociology** - Fundamental concepts of sociology and introduction to the analysis of social problems. 5 CrHrs. Pre-Req: Interactive Media Majors.

**SOC1210A - Personal and Family Relations** - This course is an exploration of the development and maintenance of effective intimate relationships. SOC1210A includes a study of the effect of role expectations, attitudes, values, socioeconomic factors, stress on joint decision making and conflict resolution in dating, marriage, and family relations. By taking this course, students will increase their knowledge about developing, maintaining, and changing relationships in their personal and family life. SOC1210A will explore the numerous choices individuals make throughout the different stages of relationships, and the potential consequences of those choices. 4 CrHrs. Pre-Req: None. This course is on the Ohio Transfer Module and TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**SOC1220A – Sociology** - This course will explore the fundamental concepts of the science of sociology. Students will first investigate the sociological theories that attempt to explain societal and group behaviors. SOC1220A will then examine various aspects related to society and societal behaviors including: socialization, social structure, culture, social institutions, deviant behavior, and social movements. As the class investigates these important aspects of society, the student will be asked to apply today's issues to these topics and offer ideas to refine societal standards. There will be several class assignments based on or accessed from the Internet/Web; these assignments will be equivalent to one CrHrs. of class time. 5 CrHrs. Pre-Req: None. This course is on the Ohio Transfer Module and TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**SOC1230A - Investigating Social Problems** - This course will investigate several prevailing social issues and problems. Students will examine why some social problems emerge and how social forces can inhibit society's ability to solve them. Potential solutions will be introduced, discussed, and debated. 4 CrHrs. Pre-Req: None. This course is on the Ohio Transfer Module and TAG. An Ohio Board of Regents approved course to transfer to any state institution in Ohio.

**SOC2980A - Special Topics** - This is a special course in the area of sociology designed to give groups of students the opportunity to pursue studies not otherwise offered. Graded S/U. 1-5 CrHrs. Pre-Req: Department approval.

**SOC2990A - Individual Investigation** - The student will work independently in an area of sociology not provided in other sociology courses. A reading, research, or writing project or problem is jointly selected by a supervising instructor and the student. Graded on a S/U basis. 1-4 CrHrs. Pre-Req: Department approval.

**STE1011A - Level One Electrician** - Level One Electrician is a course designed to give the student a comprehensive overview of the electrical trade as well as overall grounding in electrical fundamentals, the National Electrical Code, electrical safety issues, applied mathematics, and many other details involved in becoming an electrician. The course emphasizes hands-on activities in electrical labs that simulate real world problems and projects. 13 CrHrs. Pre-Req: None

**STE1012A - Level Two Electrician** - Level Two Electrician is a course designed to give the student a comprehensive understanding of electrical fundamentals, the National Electrical Code, electrical safety, applied mathematics, electrical motors, basic control systems, circuit installation, and many other details involved in becoming an electrician. The course emphasizes hands-on activities in electrical labs that simulate real world problems and projects. 13 CrHrs. Pre-Req: STE1011A

**STE2013A - Level Three Electrician** - Level Three Electrician is a course designed to give the student a comprehensive understanding of the National Electrical Code, electrical safety, applied mathematics, circuit design and installation, electrical distribution systems, electric motor controls, electrical installations in hazardous locations, and many other details involved in becoming an electrician. The course emphasizes hands-on activities in electrical labs that simulate real world problems and projects. 13 CrHrs. Pre-Req: STE1012A

**STE2014A - Level Four Electrician** - Level Four Electrician is a course designed to give the student a comprehensive understanding of the National Electrical Code, electrical safety, service design, fire alarm installation, standby and emergency generators, advanced motor controls, HVAC Controls, and high voltage terminations and splicing. The course emphasizes hands-on activities in electrical labs that simulate real world problems and projects. 13 CrHrs. Pre-Req: STE2013A

**STL1011A - Level One Line Erector** - This course prepares the student for Linework by beginning with rigorous wood pole training. It continues with an introduction to the Electrical Power Industry. Students will then learn basic electrical theory, applied mathematics, and transformer basics. The course concludes with an introduction to the basic construction forms used in electrical power distribution.

**STL1012A - Level Two Line Erector** - Safety is always a primary concern in line erector work and is emphasized in this course. The Personal Protective Equipment (PPE), rigging methods, equipment used in live line construction are all components of this course. After intensive classroom studies students will build a test line and learn about the specifications required for these lines. Students will compete with other apprentices in a rodeo that will emphasize excellence in line worker training.

**STL2013A - Level Three Line Erector** - Students will learn about the protective fusing systems, electrical power metering, and other special elements in the distribution infrastructure. Crew leadership, trouble investigation, and

vegetation management studies will follow. The course concludes with studies of pad mount transformers, underground distribution systems (URD) and the construction of various three-phase transformer configurations.

**STM1011A - Level One Sheet Metal** - This course begins with a summary of the history and development of the sheet metal trades. It continues by describing the tools and materials, machines, and processes used in the industry. Students are taught the math and geometry needed to successfully install all forms of architectural ductwork. The course emphasizes hands-on activities that simulate real world problems and projects. 13 CrHrs. Pre-Req: None

**STM1012A - Level Two Sheet Metal** - This course continues with math applications and practical instruction in the use of protractors, calipers, and micrometers in solving field problems in sheet metal work. The principles of radial line layout are used to develop the forms required for specific applications. Other studies include blueprint and specification reading, properties of air distribution, and bend allowances. 13 CrHrs. Pre-Req: STM1011A

**STM2013A - Level Three Sheet Metal** - More advanced math applications, methods of field measuring, and triangulation are the focus of this course. Included also is the welding and brazing of some metal joints. The principles of refrigeration and the role of heat pumps and detailed studies of blueprints and specifications complete these studies. The course emphasizes hands-on activities that simulate real world problems and projects. 13 CrHrs. Pre-Req: STM1012A

**STM2014A - Level Four Sheet Metal** - Students complete their studies in this program by participating in advanced projects covering air balance, fume and exhaust system design, and installation of access doors, louvers, and dampers. This course also prepares students in shop organization and crew leadership skills. 13 CrHrs. Pre-Req: STM2013A

**STP1011A - Level One Pipefitting** - This program of study begins with an introduction to the tools of this trade and instruction on how to properly inspect, use, and maintain them. Students will be taught fundamental oxyfuel cutting and welding as well as operation of power equipment and scaffolding procedures. 13 CrHrs. Pre-Req: None

**STP1012A - Level Two Pipefitting** - Piping systems that include chemical, fuel oil, compressed air, steam, and water are studied in the beginnings of this course. Technical studies include applied math and drawing and detail interpretations. Underground installation and excavation are also a part of this course. 13 CrHrs. Pre-Req: STP1011A

**STP1211A - Level One Plumbing** - Level One Plumbing introduces trainees to the many career options available in today's plumbing profession, discusses plumbing safety and the causes of accidents and their consequences, and instructs trainees in the care and use of the different types of hand and power tools they will use on the job. The course reviews basic math concepts, plumbing drawings and demonstrates how they apply on-the-job. Level One Plumbing also introduces trainees to the different types of plastic, copper, cast-iron, carbon steel, corrugated stainless pipes and tubes, and associated fittings, fixtures and faucets. The course concludes with an introduction to drain, waste, vent, and water distribution systems. 13 CrHrs. Pre-Req: None

**STP1212A - Level Two Plumbing** - Level Two Plumbing discusses and reviews methods for calculating angles, offsets, and for hanging, supporting, penetrations, and applying fire stopping materials on the various piping systems. The course teaches trainees how to interpret and use civil, architectural, structural, mechanical, and plumbing drawings and how to locate, install, connect, and test the various piping systems in residential and commercial applications. The course concludes with methods of installing and servicing fixtures, valves, faucets, fuel gas systems, and water heaters. 13 CrHrs. Pre-Req: STP1211A

**STP2013A - Level Three Pipefitting** - This course begins with studies in rigging practices including slings, wire rope, chains, crane load charts, and load balancing. Advanced math uses trigonometry to calculate solutions to piping problems. The course concludes with studies in pipe hanger fixtures and supports and the testing of piping systems. 13 CrHrs. Pre-Req: STP1012A

**STP2014A - Level Four Pipefitting** - Level Four Pipefitting covers the skills needed to layout and fabricate mitered bends, laterals, wyes, and many other challenging connections. More advanced studies focus on pipe misalignment and the resulting strain, stress relief, and other pipefitting concerns. The course concludes with studies in the basic requirements of supervisors as well as investigation into ethical issues. 13 CrHrs. Pre-Req: STP2013A

**STP2213A - Level Three Plumbing** - Level Three Plumbing introduces trainees to math concepts they will use on the job including area and volume, temperature, pressure, and force. The course also teaches techniques for sizing water supply lines including calculating system requirements and demand, backflow preventer devices, sizing drain, waste, venting installation techniques, and sizing of storm systems. The course concludes with discussion of sewage pumps, sump pumps, corrosive-resistant waste piping and compressed air systems. 13 CrHrs. Pre-Req: STP1212A

**STP2214A - Level Four Plumbing** - Level Four Plumbing introduces trainees to business principles for plumbers including concepts and practices that are essential for successful plumbing businesses and to the knowledge and skills required for team leadership. The course also explains code requirements and discusses the practices of installing water pressure booster and recirculation systems, indirect and special waste treatment, hydronic and solar heating systems, private water supply and waste disposal systems, swimming pools and hot tubs, and describes the location and layout of plumbing systems for mobile homes and mobile home parks. The course concludes with instruction on diagnosis and repair of piping systems. 13 CrHrs. Pre-Req: STP2213A

**STS1011A - Level One Substation** - The Substation Technician training program begins with studies in core skills: Safety, Power Tools, Basic Communication Skills, and Blueprint reading. The course continues with an introduction to electrical power delivery, substation equipment, and substation infrastructure. Cad welding of the grounded grid concludes this portion of substation training.

**STS1012A - Level Two Substation** - The rules found in OSHA 1910.269 begin the focus of this substation training course. Safely clearing equipment for maintenance and repair, overhead and underground conductors, and rigging are essential subjects reviewed in this year. Substation construction and the essential elements of construction such as interpreting drawings and standards, transformers and regulators receive major emphasis in this second year of study.

**STS2013A - Level Three Substation** - The third year of study continues with emphasis on safety in the substation. The operation of the substation system apparatus such as circuit breakers, regulators, disconnects, and transformer configurations are a focus of the course. The load infrastructure that the substation serves is featured so students have an understanding of the nature of power load demands.

**STS2014A - Level Four Substation** - More advanced studies of system automation, circuit breakers and protective devices, relays and regulators are at the beginning of this last year. Typical construction requires pulling of wire, high voltage terminations and splices, crew leadership, and build of emergency systems which the students will practice during these studies. The course concludes with studies in electronics and state-of-the-art control and data handling systems.

**TCT0000A - TC Elective** - TCT course outside of program requirements as allowed by academic plan.

**TCT1000A - Intro To Telecommunications** - This introductory course starts with a history of Telecommunications in the outside plant from open wire to fiber optics. Telecom cable color codes and various types of communication cable and wire will be described, demonstrated, and shown to the student. Other topics discussed are splicing procedures, types of connections, categories of terminals and closures, classes of splices, and setups to efficiently make these splices. Residential and business single/multi-line station installations will be discussed. 4 CrHrs. Pre-Req: None.

**TCT1010A - Outside Plant I** - This course presents a detailed study of cable splicing and outside plant construction. The student will gain hands-on experience in the application of ready access, direct buried, and pedestal-type closures, and the use of special splicing machines. Also covered are different types of test sets and fault-locating equipment. 4 CrHrs. Pre-Req: TCT1000A.

**TCT1030A - Outside Plant II** - This course closely examines all aspects of copper cable location and fault repair using various types of test equipment. The placing, splicing, and testing of copper and fiber optic cables, and aerial, buried and underground situations will be an integral part of this course. 4 CrHrs. Pre-Req: TCT1010A.

**TCT1040A - Broadband Delivery Technologies** - This course will provide the instruction and hands-on experience to set-up, splice, test, maintain, and troubleshoot outside plant cables with an emphasis on newer high-frequency broadband applications over copper cable. 4 CrHrs. Pre-Req: TCT1010A and TCT1030A

**TCT1200A - Intro to Collocation** - This introductory course will familiarize the student with various types of equipment and services provided through the interconnect industry. Industry standards that are presently being used in interconnect cabling will be discussed and demonstrated. Students will have the opportunity to study the layout of interconnect projects and specify equipment and cabling types to be used. 2 CrHrs. Pre-Req: None.

**TCT1300A - Intro to Switching Technology** - This course introduces the student to the theory and equipment used in telephone switching. Instruction starts with the early forms of switching and progresses to the latest technology. Features that are presently available for present-day telecommunication service as well as the digital switching necessary to maintain these features will be the focus of this course. Emphasis is given to instruction on digital switches which represent the most current technology. 4 CrHrs. Pre-Req: None.

**TCT1660A - Technician Work Safety** - This course will introduce the student to general workplace safety with specific Telecom industry topics emphasized. Personal protective equipment, eye protection, hearing protection, head protection, hand protection, fire safety, electrical safety, hazardous materials safety, lock/out-tag/out, and confined space safety will be studied along with ladder selection and safety, basic introduction to wood pole climbing, portable power hand tool safety, bucket truck safety, excavation safety, aerial cable clearance and separation requirements and temporary traffic control procedures. This class will include a combination of on-line computer based projects plus hands on applications. 3 CrHrs. Pre-Req: None

**TCT1750A - Network Structure** - This course will cover structured wiring and basic TCP/IP for both Telecommunications and Networking students. The structured wiring will cover safety, standards and standard organizations, installation and wiring closets. A variety of cabling media will be covered including copper, fiber, and wireless. Students will also learn the basics of the TCP/IP model with emphasis on the IP protocol. 4 CrHrs. Pre-Req: None

**TCT2100A - Fiber Optics & Fiber Splicing** - This course will present an overview of fiber optic equipment and materials as used in telephone outside plant. While some background and theory are discussed, long-haul fiber systems are stressed. Students will receive hands-on instruction in the application of a variety of mechanical fiber optic splices. Various types of fusion splicing will also be discussed. The students will then test their splices with fiber testing equipment. 4 CrHrs. Pre-Req: TCT1300A.

**TCT2200A - EPBAX Switching Systems** - This course considers installation, maintenance, and programming applications of EPBAX systems. Discussion, lecture, and lab exercises allow the student to become familiar with the types of equipment used in this application of telecommunications. The latest features and programming currently used in these systems will be discussed and demonstrated in lab exercises. 4 CrHrs. Pre-Req: TCT1200A.

**TCT2210A - Transport Systems Technology** - This course introduces the student to the theory and equipment used in T-1 and broadband applications. Instruction starts with the early forms of transmission methods and progresses to the latest technology. Features that are presently available for present-day telecommunication service as well as the broadband capabilities necessary to maintain these features will be the focus of this course. Emphasis is given to instruction on digital transmission that represents the most current technology. 4 CrHrs. Pre-Req: TCT1300A

**TCT2310A - Data Communications** - Students will focus on the emerging technologies of the present Telecommunication industry. Voice over IP, wireless LANs, and other modes of wireless communication will be examined. Infrastructure requirements of broadband technologies such as ADSL and DSL will be discussed. The student will have the opportunity to observe broadband and other new technologies that will be featured in this advanced study. 4 CrHrs. Pre-Req: TCT1200A.

**TCT2390A - Advanced CO Switching Tech** - This course is an extension of the Introduction to Switching Technologies course and discusses central office technology in greater detail. The lecture portion focuses on the various types of equipment found in the central office, including their functionality, installation, setup and administration. Efforts will be made to observe working central offices as the opportunity permits. Maintenance and troubleshooting of the equipment will be studied. Emphasis is given to instruction on digital switches and the Softswitches that represent the most current technology. 4 CrHrs. Pre-Req: TCT1300A

**TCT2700A - Applied Design Project** - This capstone course allows students to apply and integrate previous course work by planning and designing a telecommunications system. 2 CrHrs. Pre-Req: Greater than 90 CrHrs.

**TCT2900A - Telecmntns CO-OP** - Cooperative education is a learning experience which integrates the student's academic field of study with work experience in business and industry. Co-op students receive college credit for structured, on-the-job learning experiences related to their academic field. 1-4 CrHrs. TCT2900A is repeatable to a maximum of 12 CrHrs. Graded on a S/U basis. Pre-Req: Greater than 45 CrHrs.

**TCT2980A - Special Topics** - This course presents a special project in the area of Telecommunications designed to give students the opportunity to pursue studies not otherwise offered in the degree program. 1-5 CrHrs. TCT2980A is repeatable to a maximum of 10 CrHrs. Graded S/U. Pre-Req: Department approval.

**TCT2990A - Individual Investigation** - TCT2990A is an independent investigation of an appropriate problem in the student's major field of interest. 1-5 CrHrs. TCT2990A is repeatable to a maximum of 10 CrHrs. Graded on a S/U basis. Pre-Req: Department approval.

**TMT1500B - Applied Technical Math I** - This course covers the mathematics topics and skills needed to be successful in college level technical courses and for working in a job in a technical field. Topics in this course include: basic math operations with whole numbers and integers, fractions and percents, use of the scientific calculator, US Customary and metric measurement systems, solving linear equations, problem solving strategies, equations with fractions and decimals, powers and scientific notation, formulas, and basic trigonometry. 5 CrHrs. Pre-Req: COMPASS or MTH0990A

**TMT1550A - Applied Technical Mathematics II** - This course is a continuation of the TMT1500B Applied Technical Math I and will expand on the topics covered in the previous term. Topics covered will include: Functions, Quadratic Equations, Geometry, and Trigonometry. Students will gain skills needed to be successful in the engineering field by working with application problems that pertain to engineering issues. 5 CrHrs. Pre-Req: TMT1500B

**TWR1100A - Technical Writing** - This course will teach students to communicate as technical professionals in business, industry, service, or government organizations. It will develop students' abilities to produce clear, concise correspondence, reports, instructions, proposals, and resumes that will be effective in a work setting. The course covers technical writing basics including typical formats, as well as special techniques, document design, and graphics. 4 CrHrs. Pre-Req: ENG1090A.

**WAL1610A - Working Aloft** - This course will introduce the student to the principal skills needed to safely work with ladders and work platforms. Students will learn how to safely set up and inspect work areas that are for the purpose of installing and maintaining aerial cabling. Power hazard identification and testing, clearances, and separations will be discussed. Workplace safety will be emphasized in this course. 4 CrHrs. Pre-Req: MFT1200A.