level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**INDS 2311 - INTERIOR ENVIRONMENTAL FACTORS**

3 Credits (3 hrs. lec.) A study of human and material factors affecting the interior environment, including proxemics, ergonomics, universal design, and use of sustainable materials. Prerequisites: INDS 1311 or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

**INDS 2313 - RESIDENTIAL DESIGN I**

3 Credits (2 hrs. lec., 4 hrs. lab.) The study of residential spaces, including the identification of client needs, programming, standards, space planning, drawings, and presentations. Prerequisites: INDS 1349 and 2321; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**INDS 2315 - LIGHTING FOR INTERIOR DESIGNERS**

3 Credits (2 hrs. lec., 4 hrs. lab.) Fundamentals of lighting design, including lamps, luminaires, lighting techniques, and applications for residential and commercial projects. Prerequisites: INDS 1319; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**INDS 2321 - PRESENTATION DRAWING**

3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to two- and three-dimensional presentations, including drawings with one- and two-point perspectives, plans, and elevations. Prerequisites: INDS 1311, 1319, AND department approval; ARTS 1316; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**INDS 2325 - PROFESSIONAL PRACTICES FOR INTERIOR DESIGNERS**

3 Credits (3 hrs. lec.) A study of business practices and procedures for interior designers, including professional ethics, project management, marketing, and legal issues. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**INDS 2330 - INTERIOR DESIGN BUILDING SYSTEMS**

3 Credits (2 hrs. lec., 4 hrs. lab.) An overview of building materials, mechanical systems, and construction techniques as applied to interior design. Discussion of codes, project sequencing and the interpretation of detailed working drawings. Prerequisites: INDS 1319; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**INDS 2486 - INTERNSHIP - INTERIOR DESIGN**

4 Credits (16 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisites: Student must have completed all first semester classes, or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**INDS 2487 - INTERNSHIP - INTERIOR DESIGN**

4 Credits (16 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. This course is intended for facilities management students. Prerequisites: Student must have completed all first semester classes, or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**INEW 2438 - ADVANCED JAVA PROGRAMMING**

4 Credits (3 hrs. lec., 2 hrs. lab.) A continuation of Java programming techniques such as servlets and advanced graphical functions. Prerequisites: ITSE 2417; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**INMT 1311 - COMPUTER INTEGRATED MANUFACTURING**

3 Credits (2 hrs. lec., 2 hrs. lab.) A study of the principles and application of computer integrated manufacturing including integration of material handling, manufacturing, and computer hardware and programming. Prerequisite: MCHN 1319
DESCRIPTION OF COURSES

INMT 1417 - INDUSTRIAL AUTOMATION
4 Credits (3 hrs. lec., 2 hrs. lab.) Applications of industrial automation systems including identification of system requirements, equipment integration, motors, controllers, and sensors. Coverage of setup, maintenance, and testing of the automated system. Prerequisites: RBTC 1401, CETT 1402 or CETT 1409

INMT 1443 - CAD - CAM
4 Credits (2 hrs. lec., 6 hrs. lab.) Computer-assisted applications in integrating engineering graphics and manufacturing. Emphasis on the conversion of working drawings using computer aided design/computer aided manufacturing (CAD/CAM) software and related input and output devices translating into machine codes. Prerequisite: Instructor approval

INMT 1491 - SPECIAL TOPICS - INDUSTRIAL MANUFACTURING TECHNOLOGY/TECHNICIAN
4 Credits (3 hrs. lec., 3 hrs. lab.) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

INMT 2303 - PUMPS, COMPRESSORS AND MECHANICAL DRIVES
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of the theory and operations of various types of pumps and compressors. Topics include mechanical power transmission systems including gears, v-belts, and chain drives. Prerequisite: None

INMT 2345 - INDUSTRIAL TROUBLESHOOTING
3 Credits (2 hrs. lec., 3 hrs. lab.) An advanced study of the techniques used in troubleshooting various types of industrial equipment to include mechanical, electrical, hydraulic, and pneumatic systems and their control devices. Emphasis will be placed on the use of schematics and diagrams in conjunction with proper troubleshooting procedures. Prerequisite: None

INMT 2380 - COOPERATIVE EDUCATION - INDUSTRIAL MANUFACTURING TECHNOLOGY/TECHNICIAN
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisite: Departmental approval

INMT 2381 - COOPERATIVE EDUCATION - INDUSTRIAL MANUFACTURING TECHNOLOGY/TECHNICIAN
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisite: Departmental approval

INMT 2388 - INTERNSHIP MANUFACTURING TECHNOLOGY/TECHNICIAN
3 Credits (15 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: Departmental approval

INMT 2389 - INTERNSHIP MANUFACTURING TECHNOLOGY/TECHNICIAN
3 Credits (15 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: Departmental approval

INTC 1341 - PRINCIPLES OF AUTOMATIC CONTROL
3 Credits (2 hrs. lec., 3 hrs. lab.) Basic measurements, automatic control systems and design, closed loop systems, controllers, feedback, control modes and control configurations. Prerequisite: RBTC 1401

ITAL 1411 - BEGINNING ITALIAN I
4 Credits (3 hrs. lec., 2 hrs. lab.) This course includes beginner’s pronunciation, oral practice, conversation, use of recordings for ear training, basic principles of grammar, simple exercises in composition, easy reading that includes cultural material. (1609025113) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITAL 1412 - BEGINNING ITALIAN II
4 Credits (3 hrs. lec., 2 hrs. lab.) This course is a continuation of 1411 with increased emphasis on comprehension, speaking, reading, and writing. Intensive skills to increase vocabulary and knowledge of structure. (1609025113) Prerequisites: ITAL 1411 OR placement by exam; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or
ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITAL 2311 - INTERMEDIATE ITALIAN I
3 Credits (3 hrs. lec.) This course stresses both oral and written exercises to increase vocabulary expansion of grammatical principles and short themes written on a variety of topics. (1609025213) Prerequisites: ITAL 1412; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITAL 2312 - INTERMEDIATE ITALIAN II
3 Credits (3 hrs. lec.) This course is a continuation of ITAL 2311 with emphasis on literary works by Italian authors. Students will read one major novel in Italian. Continued reinforcement of grammatical principles and development of writing and oral skills are stressed. (1609025213) Prerequisites: ITAL 2311; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITAL 2376 - INTERMEDIATE ITALIAN CONVERSATION
3 Credits (3 hrs. lec.) Intensive oral practice in small and large group context for students who have learned Italian as a foreign language and have mastered speaking, reading and writing competencies in the language. (1609027113) Prerequisite: ITAL 1412

ITCC 1375 - INTRODUCTION TO NETWORKS
3 Credits (2 hrs. lec., 3 hrs. lab.) Introduce the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. Prerequisites: ITSC 1301 or COSC 1301

ITCC 1376 - ROUTING AND SWITCHING ESSENTIALS
3 Credits (2 hrs. lec., 3 hrs. lab.) This course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. Prerequisites: COSC 1301 and ITCC 1475 or ITCC 1375

ITCC 1401 - CISCO EXPLORATION 1 - NETWORK FUNDAMENTALS
4 Credits (3 hrs. lec., 2 hrs. lab.) A course introducing the architecture, structure, functions, components, and models of the Internet. Describes the use of OSI and TCP layered models to examine the nature and roles of protocols and services at the applications, network, data link, and physical layers. Covers the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations. Build simple LAN topologies by applying basic principles of cabling; perform basic configurations of network devices, including routers and switches; and implementing IP addressing schemes. Prerequisites: ITSC 1301 or COSC 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITCC 1404 - CISCO EXPLORATION 2 - ROUTING PROTOCOLS AND CONCEPTS
4 Credits (3 hrs. lec., 2 hrs. lab.) This course describes the architecture, components, and operation of routers, and explains the principles of routing and routing protocols. Students analyze, configure, verify, and troubleshoot the primary routing protocols RIPv1, RIPv2, EIGRP, and OSPF. Recognize and correct common routing issues and problems. Model and analyze routing processes. Prerequisites: ITCC 1401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITCC 2378 – SCALING NETWORKS
3 Credits (2 hrs. lec., 3 hrs. lab.) This course describes the architecture, components, and operations of routers and switches in a larger and more complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network. Prerequisites: ITSC 1301 or COSC 1301 and ITCC 1375 and ITCC 1376

ITCC 2379 - CONNECTING NETWORKS
3 Credits (2 hrs. lec., 3 hrs. lab.) This course discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection
criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement IPsec and virtual private network (VPN) operations in a complex network. Prerequisites: ITSC 1301 or COSC 1301 and ITCC 1375 and ITCC 1376 and ITCC 2378

ITCC 2408 - CISCO EXPLORATION 3 - LAN SWITCHING AND WIRELESS
4 Credits (3 hrs. lec., 2 hrs. lab.) This course helps students develop an in-depth understanding of how switches operate and are implemented in the LAN environment for small and large networks. Detailed explanations of LAN switch operations, VLAN implementation, Rapid Spanning Tree Protocol (RSTP), VLAN Trunking Protocol (VTP), Inter-VLAN routing, and wireless network operations. Analyze, configure, verify, and troubleshoot VLANs, RSTP, VTP, and wireless networks. Campus network design and Layer 3 switching concepts are introduced. Prerequisites: ITCC 1401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITCC 2410 - CISCO EXPLORATION 4 - ACCESSING THE WAN
4 Credits (3 hrs. lec., 2 hrs. lab.) This course explains the principles of traffic control and access control lists (ACLs) and provides an overview of the services and protocols at the data link layer for wide-area access. Describes user access technologies and devices and discover how to implement and configure Point-to-Point Protocol (PPP), Point-to-Point Protocol over Ethernet (PPPoe), DSL, and Frame Relay. WAN security concepts, tunneling, and VPN basics are introduced. Discuss the special network services required by converged applications and an introduction to quality of service (QoS). Prerequisites: ITCC 1401, ITCC 1404, and ITCC 2408

ITCC 2441 - CCNA SECURITY
4 Credits (3 hrs. lec., 2 hrs. lab.) Overall security processes with particular emphasis on hands-on skills in the following areas: security policy design and management; security technologies, products, and solutions; and secure router design, installation, configuration, and maintenance; AAA and VPN implementation using routers and firewalls. Prerequisites: ITCC 1401, ITCC 1404, ITCC 2408 and ITCC 2410 or Cisco CCNA Industry Certification

ITCC 2454 - CCNP ROUTING - IMPLEMENTING IP ROUTING
4 Credits (3 hrs. lec., 3 hrs. lab.) How to implement, monitor, and maintain routing services in an enterprise network. How to plan, configure, and verify the implementation of complete enterprise LAN and WAN routing solutions using a range of routing protocols in IPv4 and IPv6 environments. Configuration of secure routing solutions to support branch offices and mobile workers. Prerequisites: ITCC 1401, ITCC 1404, ITCC 2408 and ITCC 2410 or Cisco CCNA Industry Certification; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITCC 2455 - CCNP SWITCH - IMPLEMENTING IP SWITCHING
4 Credits (3 hrs. lec., 3 hrs. lab.) How to implement, monitor, and maintain switching in converged enterprise campus networks. How to plan, configure, and verify the implementation of complex enterprise switching solutions. How to secure integration of VLANs, WLANs, voice and video into campus networks. Prerequisites: ITCC 1401, ITCC 1404, ITCC 2408 and ITCC 2410 or Cisco CCNA Industry Certification; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITCC 2456 - CCNP TSHOOT - MAINTAINING AND TROUBLESHOOTING IP NETWORKS
4 Credits (3 hrs. lec., 3 hrs. lab.) How to monitor and maintain complex, enterprise and switched IP networks. Skills learned include the planning and execution of regular network maintenance, as well as support and troubleshooting using technology-based processes and best practices based on systematic and industry recognized approaches. Prerequisites: ITCC 1401, ITCC 1404, ITCC 2408 and ITCC 2410 or Cisco CCNA Industry Certification; ITCC 2454 and ITCC 2455; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITCC 2459 - ADVANCED VOICE OVER INTERNET PROTOCOL (VOIP)
4 Credits (3 hrs. lec., 2 hrs. lab.) Voice Over Internet Protocol (VOIP) architecture, components, and functionality. Includes VOIP signaling, call control, voice dial plans, configuring voice interfaces, dial peers, and quality of service (QoS) technologies. Prerequisites: ITCC 1401, ITCC 1404, ITCC 2408 and ITCC 2410 or Cisco CCNA Industry Certification
ITMT 1370 - WINDOWS 7 CLIENT CONFIGURATION
70-680
3 Credits (2 hrs. lec., 3 hrs. lab.) This course provides an in-depth understanding of the Microsoft Windows 7 operating system with a specific focus on implementation and desktop support needs for the clients in a variety of stand-alone and network operating system environments. Topics covered include installation, user and group accounts, security, networking, TCP/IP, built-in applications, and advanced configuration and troubleshooting techniques. This course prepares Information Technology professionals to plan, install, configure, implement, secure, and manage Microsoft Windows 7. Prerequisite: ITNW 1325

ITMT 1371 - WINDOWS SERVER 2008
3 Credits (2 hrs. lec., 3 hrs. lab.) This course provides an introduction to the core concepts of Microsoft Windows Server 2008 and lays the foundation for more advanced concepts and courses. Topics covered include installation, user and group accounts, authentication, an introduction to Active Directory, Server Manager Console, server software, security and policy management using Network Access Protection, automated and remote administration, basic network connectivity, and backup and recovery. Prerequisite: ITMT 1370

ITMT 1372 - WINDOWS SERVER 2008 APPLICATIONS INFRASTRUCTURE 70-643
3 Credits (2 hrs. lec., 3 hrs. lab.) An in-depth course on Web, network, remote, and desktop applications administration and configuration on Microsoft Windows Server 2008. Topics covered include server deployment, virtualization, Terminal services configuration, Web application installation and configuration, and Windows services installation, configuration and administration including Internet information service, File Transfer Protocol (FTP), and Simple Mail Transfer Protocol (SMTP). Prerequisite: ITMT 1370

ITMT 1373 - WINDOWS SERVER 2008 NETWORK INFRASTRUCTURE 70-642
3 Credits (2 hrs. lec., 3 hrs. lab.) Covers planning, installation, configuration, administration, management, maintenance, monitoring, and troubleshooting of network infrastructure components. Prerequisite: ITMT 1371

ITMT 1400 - IMPLEMENTING AND SUPPORTING MICROSOFT WINDOWS XP PROFESSIONAL
4 Credits (3 hrs. lec., 2 hrs. lab.) Addresses the implementation and desktop support needs of customers that are planning to deploy and support Microsoft Windows XP Professional in a variety of stand-alone and network operating system environments. In-depth, hands-on training for Information Technology (IT) professionals responsible for the planning, implementation, management, and support of Windows XP Professional. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITMT 1440 - MANAGING AND MAINTAINING A MICROSOFT WINDOWS SERVER 2003 ENVIRONMENT
4 Credits (2 hrs. lec., 3 hrs. lab.) Managing accounts and resources, maintaining server resources, monitoring server performance, and safeguarding data in a Microsoft Windows Server 2003 environment. Prerequisites: ITMT 1400; ENGL0305 or ENGL0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITMT 1450 - IMPLEMENTING, MANAGING AND MAINTAINING A MICROSOFT WINDOWS SERVER 2003 NETWORK INFRASTRUCTURE: NETWORK SERVICES
4 Credits (3 hrs. lec., 2 hrs. lab.) Implementing routing; implementing, managing, and maintaining Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS), and Windows Internet Name Service (WINS); securing Internet Protocol (IP) traffic with Internet Protocol security (IPSec) and certificates; implementing a network access infrastructure by configuring the connections for remote access clients; and managing and monitoring network access. Prerequisites: ITMT 1400, 1440; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITMT 1455 - MCSE IV, 70-293, PLANNING, IMPLEMENTING AND MAINTAINING A MICROSOFT SERVER 2003 NETWORK INFRASTRUCTURE
4 Credits (3 hrs. lec., 2 hrs. lab.) This is the fifth course in the Windows Server 2003 Engineer curriculum. Prerequisites: ITMT 1400, 1440; ENGL0305 or ENGL0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITMT 2370 - WINDOWS SERVER 2008 ACTIVE DIRECTORY 70-630
3 Credits (2 hrs. lec., 3 hrs. lab.) An in-depth course on Windows Server 2008 Active Directory. Topics
DESCRIPTION OF COURSES

covered include forest and domain structure; Domain Name System (DNS); site topology and replication; organizational unit structure and delegation of administration; group policy; certificate services; and user, group, and computer account strategies. Prerequisite: ITMT 1371

ITMT 2400 - PLANNING, IMPLEMENTING, AND MAINTAINING A MICROSOFT WINDOWS SERVER 2003 ACTIVE DIRECTORY INFRASTRUCTURE
4 Credits (3 hrs. lec., 2 hrs. lab.) Windows Server 2003 directory service environment. Includes forest and domain structure; Domain Name System (DNS); site topology and replication; organizational unit structure and delegation of administration; Group Policy; and user, group, and computer account strategies. Prerequisites: ITMT 1400, 1440; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITMT 2430 - DESIGNING A MICROSOFT WINDOWS SERVER 2003 ACTIVE DIRECTORY AND NETWORK INFRASTRUCTURE
4 Credits (3 hrs. lec., 2 hrs. lab.) Designing a Microsoft Active Directory service and network infrastructure for a Microsoft Windows Server 2003 environment. Intended for systems engineers who are responsible for designing directory service and/or network infrastructures. Prerequisites: ITMT 1400, 1440; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITMT 2440 - DESIGNING SECURITY FOR MICROSOFT NETWORKS
4 Credits (3 hrs. lec., 2 hrs. lab.) Assembling the design team, modeling threats, and analyzing security risks in order to meet business requirements for securing computers in a networked environment. Includes decision-making skills through an interactive tool that simulates real-life scenarios. Focuses on collecting information and sorting through details to resolve a given security requirement. Prerequisites: ITMT 1400, 1440; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITMT 2446 - MCSE XI, 70-299, IMPLEMENTING AND ADMINISTERING SECURITY IN A MICROSOFT WINDOWS Server 2003 NETWORK
4 Credits (3 hrs. lec., 2 hrs. lab.) Addresses the Microsoft Certified Systems Administrator (MCSA) and Microsoft Certified Systems Engineer (MCSE) skills path for information technology security practitioners. Focuses on Microsoft Windows Server 2003 infrastructure solutions. Includes client-focused content where appropriate. Provides functional skills in planning and implementing infrastructure security. Prerequisites: ITMT 1400, 1440 and 2400; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITMT 2450 - MCSE VIII, 70-284, IMPLEMENTING AND MANAGING MICROSOFT EXCHANGE SERVER 2003
4 Credits (3 hrs. lec., 2 hrs. lab.) Updating and supporting a reliable, secure messaging infrastructure used for creating, storing, and sharing information by using Microsoft Exchange Server 2003. Includes a significant amount of hands-on practices, discussions, and assessments to assist students in becoming proficient in the skills necessary to update and support Exchange Server 2003. Prerequisites: ITMT 1400, 1440; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITMT 2471 - WINDOWS SERVER 2008 SERVER ADMINISTRATOR 70-646
4 Credits (3 hrs. lec., 2 hrs. lab.) An in-depth course to prepare students to handle day-to-day management of the server operating system, file structure, and directory services; handle software distribution and updates; monitor servers; provide tier-2 troubleshooting support; support engineering and change-management projects; build and configure servers; implement auditing policy; perform scheduled vulnerability-assessment scans; and monitor logs for firewalls and intrusion-detection systems. Prerequisites: ITMT 1373, ITMT 2370

ITMT 2472 - WINDOWS 2008 ENTERPRISE ADMINISTRATION 70-647
4 Credits (3 hrs. lec., 2 hrs. lab.) Covers network infrastructure design, evaluation of technology solutions, development of policies and procedures, and analysis of network performance at an enterprise level. Prerequisites: ITMT 1373, ITMT 2370

ITNW 1313 - COMPUTER VIRTUALIZATION
3 Credits (2 hrs. lec., 3 hrs. lab.) Implement and support virtualization of clients of servers in a networked computing environment. This course explores installation, configuration, and management of computer virtualization workstation and servers. Prerequisites: ITNW 1325 and ITSC 1305 and ITSC 1325
ITNW 1325 - FUNDAMENTALS OF NETWORKING TECHNOLOGIES
3 Credits (2 hrs. lec., 3 hrs. lab.) Instruction in networking technologies and their implementation. Topics include the OSI reference model, network protocols, transmission media, and networking hardware and software. Prerequisites: ITSC or COSC 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

ITNW 1391 - BACKUP RECOVERY SYSTEMS AND ARCHITECTURE
This course will provide the student with an introduction to the technologies used to support traditional, virtualized, and cloud data center environments. Cloud deployment and service models, cloud infrastructure, and the key considerations in migrating to a cloud environment, are covered in this course. Backup/recovery, business continuity, security, and management of cloud environments are topics also covered in this course. Prerequisite: ITMT 1373 or instructor approval.

ITNW 1392 - CLOUD INFRASTRUCTURE & SERVICES
This course will provide the student with an introduction to the technologies used to support traditional, virtualized, and cloud data center environments. Cloud deployment and service models, cloud infrastructure, and the key considerations in migrating to a cloud environment, are covered in this course. Backup/recovery, business continuity, security, and management of cloud environments are topics also covered in this course. Prerequisite: ITNA 1325 or instructor approval.

ITNW 2405 - NETWORK ADMINISTRATION
4 Credits (3 hrs. lec., 2 hrs. lab.) Topics include network components, user accounts and groups, network file systems, file system security, and network printing. Novell Certified. Prerequisites: ITSC 1305 and ITNW 1325; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

ITNW 2413 - NETWORKING HARDWARE
4 Credits (3 hrs. lec., 2 hrs. lab.) Exploration of hardware devices including cables, servers, and workstations, network connectivity devices and uninterruptible. Prerequisites: ITSC 1305; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: ITNW 2405.

ITNW 2421 - NETWORKING WITH TCP/IP
4 Credits (3 hrs. lec., 2 hrs. lab.) Set up, configure, use, and support Transmission Control Protocol/Internet Protocol (TCP/IP) on networking operating systems. Prerequisites: ITNW 2413; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

ITNW 2452 - ADMINISTERING SQL SERVER
4 Credits (3 hrs. lec., 2 hrs. lab.) Administering SQL Server is a skills development course in the installation, configuration, administration, and troubleshooting of SQL Servers client/server database management system version. Prerequisite: None.

ITNW 2454 - INTERNET/INTRANET SERVER
4 Credits (3 hrs. lec., 2 hrs. lab.) Designing, installing, configuring, maintaining, and managing an Internet/Intranet server. Prerequisites: ITSE 2433; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0310.

ITSC 1301 - INTRODUCTION TO COMPUTERS
3 Credits (2 hrs. lec., 3 hrs. lab.) Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources. Explores integration and application in business and other segments in society. Fundamentals of computer problem-solving and programming may be discussed and applied. Examines applications and software relating to a specific curricular area. This course is equivalent to COSC 1301. Prerequisites/Corequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

ITSC 1305 - INTRODUCTION TO PC OPERATING SYSTEMS
3 Credits (2 hrs. lec., 3 hrs. lab.) A study of personal computer operating systems. Topics include installation and configuration, file management, memory and storage management, control of peripheral devices, and use of utilities. Prerequisites: ITSE or COSC 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

ITSC 1315 - PROJECT MANAGEMENT SOFTWARE
3 Credits (2 hr. lec., 3 hrs. lab.) Use of project management software for developing a project plan including timelines, milestones, scheduling, life cycle...
phases, management frameworks, skills, processes, and tools. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITSC 1316 - LINUX INSTALLATION AND CONFIGURATION
3 Credits (2 hrs. lec., 3 hrs. lab.) Introduction to Linux operating system. Includes Linux installation, basic administration, utilities and commands, upgrading, networking, security, and application installation. Emphasizes hands-on setup, administration, and management of Linux. Prerequisites: none.

ITSC 1325 - PERSONAL COMPUTER HARDWARE
3 Credits (2 hrs. lec., 3 hrs. lab.) Current personal computer hardware including assembly, upgrading, setup, configuration, and troubleshooting. Prerequisite: ITSC 1301 or COSC 1301

ITSC 1407 - UNIX OPERATING SYSTEM I
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to the UNIX operating system including multi-user concepts, terminal emulation, use of system editor, basic UNIX commands, and writing script files. Includes introductory system management concepts. Prerequisites: ITSC 1301 or COSC 1301 AND ITSC 1305; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITSC 1491 - INFORMATION STORAGE AND MANAGEMENT
4 Credits (3 hrs. lec., 2 hrs. lab.) The Information Storage Management course teaches the skills required in designing Storage Systems using Storage Networking Technologies and Virtualization concepts, Business Continuity approaches, and Storage Security and Management strategies. Prerequisite: ITCC 2408 or instructor approval.

ITSC 2325 - ADVANCED LINUX
3 Credits (2 hrs. lec., 3 hrs. lab.) Provides instruction in Advance Open-source Linux operating system. Develops LDAP directory services to all your clients, support users remotely, installing and configuring network services. Prerequisite: None

ITSC 2331 - INTEGRATED SOFTWARE APPLICATIONS III
3 Credits (1 hr. lec., 4 hrs. lab.) Advanced use of business productivity software including complex assignments that require advanced formatting and functionality. ITSW 1301 and ITSW 1404 are recommended prior to enrolling in the course. Prerequisites: ITSC 1301 or COSC 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITSC 2335 - APPLICATION SOFTWARE PROBLEM SOLVING
3 Credits (2 hrs. lec., 4 hrs. lab.) Utilization of appropriate application software to solve advanced problems and generate customized solutions. This is a capstone course for the E-Business Web Developer AAS degree. Prerequisites: IMED 1316; ITSW 1407; ITSE 1407 or 1432 or 1445 or 2417; ITSC 1407

ITSC 2380 - COOPERATIVE EDUCATION - COMPUTER AND INFORMATION SCIENCES, GENERAL
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. This course may be used as the capstone course in the computer information technology programs. Prerequisites: Enrollment in the Computer Information Technology AAS degree program; completion of 15 credits in the degree plan; approval of computer information technology program chair

ITSC 2381 - COOPERATIVE EDUCATION
3 Credits (1 hr. lec., 20 ext.) Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. This course may be used as the capstone course in the Computer Information Technology AAS degree program; completion of 15 credits in the degree plan; approval of computer information technology program chair

ITSC 2386 - INTERNSHIP - COMPUTER AND INFORMATION SCIENCES, GENERAL
3 Credits (9 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: Department approval
ITSC 2437 - UNIX OPERATING SYSTEMS II  
4 Credits (3 hrs. lec., 2 hrs. lab.) Continued study of the UNIX operating system commands. Includes additional scripting topics such as CGI or PERL. Prerequisite: ITSC 1407

ITSC 2439 - PERSONAL COMPUTER HELP DESK SUPPORT  
4 Credits (3 hrs. lec., 2 hrs. lab.) Diagnosis and solution of user hardware and software related problems with on-the-job and/or simulated projects. Prerequisite: Completion of 16 hours of computer courses or departmental approval

ITSE 1356 - EXTENSIBLE MARKUP LANGUAGE (XML)  
3 Credits (2 hrs. lec., 2 hrs. lab.) Introduction of skills and practice related to the Extensible Markup Language. Topics to be covered will include: elements, attributes, namespaces, entities, and what constitutes a well-formed document. Prerequisite: ITSE 1402

ITSE 1402 - COMPUTER PROGRAMMING  
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to computer programming including design, development, testing, implementation, and documentation. Prerequisites: ITSC/COSC 1301 or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

ITSE 1407 - INTRODUCTION TO C++ PROGRAMMING  
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to computer programming using C++. Emphasis on the fundamentals of object-oriented design with development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files. Prerequisites: ITSE 1402; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0310

ITSE 1418 - INTRODUCTION TO COBOL PROGRAMMING  
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to computer programming using COBOL. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files. ITSC 1301 is recommended prior to enrolling. Prerequisites: ITSE 1402; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

ITSE 1430 - INTRODUCTION TO C# PROGRAMMING  
4 Credits (3 hrs. lec., 2 hrs. lab.) A study of C# syntax including data types, control structures, functions, syntax, and semantics of the language, classes, class relationships, and exception handling. Prerequisites: ITSC 1301, ITSE 1402; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITSE 1432 - INTRODUCTION TO VISUAL BASIC .NET PROGRAMMING  
4 Credits (3 hrs. lec., 2 hrs. lab.) A study of Visual Basic .NET (VB.NET) syntax including: data types, control structures, functions, syntax, and semantics of the language, classes, class relationships, and exception handling. Prerequisites: ITSE 1402 or COSC 1309; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

ITSE 1445 - INTRODUCTION TO ORACLE SQL  
4 Credits (3 hrs. lec., 2 hrs. lab.) An introduction to the design and creation of relational databases using Oracle. Topics include storing, retrieving, updating, and displaying data using Structured Query Language (SQL). Prerequisites: ITSE 1402; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

ITSE 1450 - SYSTEMS ANALYSIS AND DESIGN  
4 Credits (3 hrs. lec., 2 hrs. lab.) Comprehensive introduction to the planning, design, and construction of computer information systems using the systems development life cycle and other appropriate design tools. Prerequisites: ITSE 1402 and one programming language; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

ITSE 1492 - SPECIAL TOPICS IN COMPUTER PROGRAMMING: ADVANCED C#  
4 Credits (3 hrs. lec., 2 hrs. lab.) Topics address recently identified current events, skills, knowledge and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional
DESCRIPTION OF COURSES

development of the student. Further application of C# programming techniques including subjects such as file access, abstract data structures, class inheritance and other advanced techniques. Prerequisite: ITSE 1430

ITSE 2380 - COOPERATIVE EDUCATION - COMPUTER PROGRAMMING
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes lecture component. Prerequisites: Enrolled in Computer Information Technology AAS degree program; completion of 15 credits in degree plan; approval of computer information technology program chair

ITSE 2413 - WEB AUTHORING
4 Credits (3 hrs. lec., 2 hrs. lab.) Instruction in designing and developing Web pages that incorporate text, graphics, and other supporting elements using current technologies and authoring tools. Prerequisites: IMED 1316; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITSE 2417 - JAVA PROGRAMMING
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to object-oriented Java programming including the fundamental syntax and semantics of Java for applications and web applets. Prerequisites: ITSE 1402; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0310

ITSE 2429 - ORACLE NETWORK ADMINISTRATION AND PERFORMANCE TUNING
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to Oracle client/server connectivity and distributed databases including configuring, administering, tuning, troubleshooting Oracle SQL*Net and related tools. Prerequisite: ITSE 2456

ITSE 2431 - ADVANCED C++ PROGRAMMING
4 Credits (3 hrs. lec., 2 hrs. lab.) Further application of C++ programming techniques including file access, abstract data structures, class inheritance, and other advanced techniques. Designed to strengthen the student’s knowledge of computer programming. The student will develop correct, well-documented programs containing complex data structures; incorporate complex input/output file handling techniques; create classes and objects in programs; and incorporate advanced C++ techniques using a current personal computer C++ compiler. Prerequisites: ITSE 1407; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0310

ITSE 2433 - IMPLEMENTING A DATABASE ON MICROSOFT SQL SERVER
4 Credits (3 hrs. lec., 2 hrs. lab.) Skills development in the implementation of a database solution using Microsoft SQL Server client/server database management system. Prerequisites: ITSW 1407 and ITSE 1402

ITSE 2444 - ORACLE DATABASE STRUCTURE AND WAREHOUSING
4 Credits (3 hrs. lec., 2 hrs. lab.) A practical application course for modeling and designing an Oracle data warehouse using case studies. Prerequisites: ITSE 2429; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

ITSE 2449 - ADVANCED VISUAL BASIC PROGRAMMING
4 Credits (3 hrs. lec., 2 hrs. lab.) Advanced Visual Basic programming including file access methods, data structures, modular programming, program testing and documentation. Prerequisites: ITSE 1432; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0310

ITSE 2453 - ADVANCED C# PROGRAMMING
4 Credits (3 hrs. lec., 2 hrs. lab.) Continuation of C# programming using advanced features of the .NET Framework Class Library. Prerequisite: ITSE 1430

ITSE 2454 - ADVANCED ORACLE PL/SQL
4 Credits (3 hrs. lec., 2 hrs. lab.) A continuation of Oracle SQL. Topics include hierarchical queries, set based queries, correlated subqueries, scripting, and scripting generation. Prerequisites: ITSE 1445; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308
ITSE 2456 - ORACLE DATABASE ADMINISTRATION I
4 Credits (3 hrs. lec., 2 hrs. lab.) Fundamentals of tasks and functions required of a database administrator using Oracle. Prerequisites: ITSE 1445; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

ITSE 2458 - ORACLE DATABASE ADMINISTRATION II
4 Credits (3 hrs. lec., 2 hrs. lab.) A continuation of Oracle Database Administration I. Topics include recovery procedures, logical backups, standby database capabilities, and performance tuning of the Oracle Server. Common performance problems and the use of diagnostic tools to troubleshoot and optimize throughput will be discussed. Prerequisites: ITSE 2456; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

ITSE 2459 - ADVANCED COMPUTER PROGRAMMING
4 Credits (3 hrs. lec., 2 hrs. lab.) Further applications of programming techniques. Topics include file access methods, data structures and modular programming, program testing and documentation. Prerequisites: ITSE 1402 or COSC 1309; one lower-level programming course; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

ITSW 1301 - INTRODUCTION TO WORD PROCESSING
3 Credits (1 hr. lec., 4 hrs. lab.) An overview of the production of documents, tables, and graphics, including advanced applications in merging, macros, desktop publishing, and extensive formatting for technical documents. Prerequisite: Basic keyboarding proficiency

ITSW 1310 - INTRODUCTION TO PRESENTATION GRAPHICS SOFTWARE
3 Credits (2 hrs. lec., 3 hrs. lab.) Instruction in the utilization of presentation software to produce multimedia presentations. Graphics, text, sound, animation and/or video may be used in presentation development. Topics will include presentation design principles, effective color schemes and creative transition effects. Guidelines for oral and written presentations are emphasized. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITSY 1442 - INFORMATION TECHNOLOGY SECURITY
4 Credits (3 hrs. lec., 2 hrs. lab.) Instruction in security for network hardware, software, and data, including physical security, backup procedures; relevant tools; encryption; and protection from viruses. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITSW 1404 - INTRODUCTION TO SPREADSHEETS
4 Credits (3 hrs. lec., 2 hrs. lab.) Instruction in the concepts, procedures, and application of electronic spreadsheets. Prerequisites: ITSC or COSC 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITSW 1407 - INTRODUCTION TO DATABASE
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to database theory and the practical applications of a database. Prerequisites: ITSC or COSC 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITSW 2434 - ADVANCED SPREADSHEETS
4 Credits (3 hrs. lec., 2 hrs. lab.) Designed to provide an understanding of advanced functionality of electronic spreadsheets. Prerequisites: ITSW 1404; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITSW 2437 - ADVANCED DATABASES
4 Credits (3 hrs. lec., 2 hrs. lab.) Advanced concepts of database design and functionality. Prerequisites: ITSW 1407 and ITSE 1402; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITSY 2400 - OPERATING SYSTEM SECURITY
4 Credits (3 hrs. lec., 2 hrs. lab.) Safeguard computer operating systems by demonstrating server support skills and designing and implementing a security system. Identify security threats and monitor network security implementations. Use best practices
to configure operating systems to industry security standards. Prerequisites: ITSC 1407; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**ITSY 2401 - FIREWALLS AND NETWORK SECURITY**
4 Credits (3 hrs. lec., 2 hrs. lab.) Identify elements of firewall design, types of security threats and responses to security attacks. Use best practices to design, implement, and monitor a network security plan. Examine security incident postmortem reporting and ongoing network security activities. Prerequisites: ITSC 1407 and 2437; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**ITSY 2417 - WIRELESS SECURITY DEVELOPMENT**
4 Credits (3 hrs. lec., 2 hrs. lab.) Developing information security policies, standards, and guidelines for an organization. Includes DMZ, antivirus, Virtual Private Network (VPN), wireless communications, remote access, and other critical administrative and operational security policies. Identification of exposures and vulnerabilities and appropriate countermeasures are addressed. Emphasizes wireless security goals of availability, integrity, accuracy, and confidentiality in the design, planning, implementing, operating, and troubleshooting of wireless LAN along with appropriate planning and administrative controls. Prerequisites: ITSY 1417 and ITCC 1409

**ITSY 2441 - SECURITY MANAGEMENT AND PRACTICES**
4 Credits (3 hrs. lec., 2 hrs. lab.) In-depth coverage of security management practices, including asset evaluation and risk management; cyber law and ethics issues; policies and procedures; business recovery and business continuity planning; network security design; and developing and maintaining a security plan. Prerequisites: ITSY 2400 and 2401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**ITSY 2442 - INCIDENT RESPONSE AND HANDLING**
4 Credits (3 hrs. lec., 2 hrs. lab.) In-depth coverage of incident response and incident handling, including identifying sources of attacks and security breaches; analyzing security logs; recovering the system to normal; performing postmortem analysis; and implementing and modifying security measures. Prerequisites: ITSY 2400 and 2401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**JAPN 1411 - BEGINNING JAPANESE I**
4 Credits (3 hrs. lec., 2 hrs. lab.) Beginner’s pronunciation, oral practice and dictation. Conversation, use of recordings for ear training, basic principles of grammar, simple exercises in composition, easy reading which includes cultural material. (1603025113) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**JAPN 1412 - BEGINNING JAPANESE II**
4 Credits (3 hrs. lec., 2 hrs. lab.) A continuation of JAPN 1411 with increased emphasis on comprehension, speaking, reading and writing. Intensive drills to increase vocabulary and knowledge of structure. (1603025113) Prerequisites: JAPN 1411 or 2 years high school language in the preceding two years; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**JAPN 2311 - INTERMEDIATE JAPANESE II**
3 Credits (3 hrs. lec.) This course stresses both oral and written exercises to increase vocabulary, expansion of grammatical principles and short themes written on a variety of topics. Selected readings are included to improve comprehension in Japanese. Students with prior language experience should take a placement exam to advance to the next level and receive credit. (1603025213) Prerequisites: JAPN 1412 or instructor approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite
**JAPN 2312 - INTERMEDIATE JAPANESE II**
3 Credits (3 hrs. lec.) This course is a continuation of JAPN 2311, with emphasis on works by Japanese-speaking authors. Continued reinforcement of grammatical principles and development of writing skills are stressed. Prerequisites: JAPN 2311 or instructor approval

**KINE 1111** See PHED 1164

**KINE 1112 - WEIGHT TRAINING I**
1 Credit (3 hrs. lab.) This course emphasizes the development of muscular strength and endurance, cardiovascular fitness and flexibility. Current information and research in the areas of nutrition, proper training techniques, workout organizations, complementary exercises and additional wellness principles are presented and integrated into this physical activity course. (3601085123) Prerequisite/Corequisite: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL0307 or ENGL0375 or ENGL0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**KINE 1113 - JOGGING I**
1 Credit (3 hrs. lab.) Jogging I is a cardiorespiratory fitness course which includes instruction and practice in jogging technique and program setup. Flexibility and strength exercises are included with an introduction to wellness concepts including nutrition, disease prevention, weight control and other aspects of a healthy lifestyle. (3601085123) Prerequisite: None

**KINE 1114 - AEROBICS I**
1 Credit (3 hrs. lab.) Aerobics is a group activity class that includes the following: step aerobics, circuit training, sports conditioning, body toning, pilates, high/low impact, cardiovascular endurance. Wellness principles are presented and integrated into this physical activity course. (3601085123) Prerequisite: None

**KINE 1115 - BICYCLING I**
1 Credit (3 hrs. lab.) Bicycling I is an introductory course in cycling designed to teach the basic techniques and safety aspects of cycling as a method of improving cardiovascular endurance. Wellness principles are presented and integrated into this physical activity course. (3601085123) Prerequisite: None

**KINE 1116 - AQUA AEROBICS I**
1 Credit (3 hrs. lab.) Aqua Aerobics I is an introductory course designed to improve cardiorespiratory endurance through a variety of exercises in a pool environment. Flexibility, body composition, basic nutrition, and weight control concepts are addressed. (3601085123) Prerequisite: None

**KINE 1118 - INLINE SKATING I**
1 Credit (3 hrs. lab.) Inline Skating I is an introductory course which provides basic instruction in the activity of inline skating. Cardiovascular endurance and additional fitness concepts are included. Wellness principles are presented and integrated into this physical activity course. (3601085123) Prerequisite: None

**KINE 1121 - BADMINTON I**
1 Credit (3 hrs. lab.) This course offers an introduction to the history, rules, basic strokes, and strategies in singles and doubles play in badminton. Students will participate in intra-class games and other skill development activities. (3601085123) Prerequisite: None

**KINE 1122 - BOWLING I**
1 Credit (3 hrs. lab.) This course offers basic beginning skills, safety, scorekeeping techniques, rules, and strategies of bowling. Students practice skills through drills and competitive games. (3601085123) Prerequisite: None

**KINE 1123 - GOLF I**
1 Credit (3 hrs. lab.) Golf I emphasizes basic golf skills, rules, scoring, etiquette, and terminology. (3601085123) Prerequisite: None

**KINE 1124 - RACQUETBALL I**
1 Credit (3 hrs. lab.) Racquetball I is an introductory course designed to teach the novice player the basic strokes, strategies, and the rules of the game. (3601085123) Prerequisite: None

**KINE 1125 - TENNIS I**
1 Credit (3 hrs. lab.) Tennis I introduces the student to the rules, scoring, and fundamental techniques for beginners. The course includes participation by skill levels for singles and doubles play. (3601085123) Prerequisite: None

**KINE 1127 - KARATE I**
1 Credit (3 hrs. lab.) This beginning course allows students to safely practice the physical and mental aspects of martial arts. Students are presented with the history, etiquette, meditation and self-defense techniques. (3601085123) Prerequisite: None

**KINE 1128 - YOGA I**
1 Credit (3 hrs. lab.) This introductory course offers practice in basic Yoga. Students study history and basic terms along with philosophical and physiological principles and the movements of Yoga. (3601085123) Prerequisite: None

**KINE 1130 - TAI CHI I**
1 Credit (3 hrs. lab.) This introductory course offers practice in the simplified styles and forms of Tai Chi. Students study history and basic terms along with philosophical and physiological principles and the movements of Tai Chi. (3601085123) Prerequisite: None
DESCRIPTION OF COURSES

KINE 1131 - BASKETBALL I
1 Credit (3 hrs. lab.) This course includes the fundamental skills and strategies, history, rules and terminology of basketball. The course includes participation in game situations. (3601085123) Prerequisite: None

KINE 1132 - VOLLEYBALL I
1 Credit (3 hrs. lab.) Volleyball I includes instruction and practice of beginning volleyball techniques and skills, with introduction to the rules, offensive and defensive strategy, and safety aspects. (3601085123) Prerequisite: None

KINE 1133 - SOFTBALL I
1 Credit (3 hrs. lab.) Students will receive instruction in the following fundamental skill areas: throwing, batting, fielding, and base running. The rules, safety, offense and defense strategies and basic terminology will be emphasized through game play. (3601085123) Prerequisite: None

KINE 1134 - SOCCER I
1 Credit (3 hrs. lab.) Covers fundamental skills and strategies, history, rules and terminology of soccer. The course includes participation in game situations. (3601085123) Prerequisite: None

KINE 1135 - BASEBALL I
1 Credit (3 hrs. lab.) Baseball I emphasizes instruction and practice of beginning baseball skills, with introduction to the rules, scorekeeping, and offensive and defensive strategies. The course includes participation in game situations. (3601085123) Prerequisite: None

KINE 1141 - BALLET I
1 Credit (3 hrs. lab.) This dance technique course introduces students to beginning ballet techniques at barre and center. Students learn basic terms, general history of this classical dance form and create original combination steps. Not transferable as a fine arts credit. (3601145123) Prerequisite: None

KINE 1143 - MODERN DANCE I
1 Credit (3 hrs. lab.) This beginning level of modern dance technique includes basic terms, history and technique of this creative style of dance. Using artistic free form movements, the students create an original combination of steps. Not transferable as a fine arts credit. (3601145123) Prerequisite: None

KINE 1145 - JAZZ DANCE I
1 Credit (3 hrs. lab.) Students learn and practice beginning jazz techniques. Students will be introduced to basic terms and general history of jazz dance forms. Movement patterns and concepts are used from various styles including lyrical, musical, comedy, fun, street, and Afro-Haitian dance styles.

KINE 1146 - COUNTRY AND WESTERN DANCE I
1 Credit (3 hrs. lab.) Country and Western Dance I is an introductory dance technique course. It emphasizes instruction and practice of beginning country western techniques including the two-step, polka, waltz, Cotton-eyed Joe, Schottische, jitterbug, and line dances. (3601145123) Prerequisite: None

KINE 1147 - SOCIAL AND POPULAR DANCE
1 Credit (3 hrs. lab.) Instruction and practice in dances that are currently popular. Basic steps and variations, techniques of leading and following are included. Emphasis on "traditional": fox trot, waltz, jitterbug, and polka in fall semester. Emphasis on Latin dances; salsa, tango, samba, meringue in the spring semester. (3601145123) Prerequisite: None

KINE 1151 - BASIC SCUBA DIVING
1 Credit (3 hrs. lab.) Basic SCUBA Diving is an aquatic activity skill course with emphasis on instruction and practice of basic techniques of SCUBA. It includes an introduction to the safety aspects and concepts of SCUBA. Certification is included in the course, but not required for completion of the course for credit. (3601085423) Prerequisite: Ability to swim

KINE 1152 - ADVANCED SCUBA DIVING
1 Credit (3 hrs. lab.) Advanced SCUBA Diving involves participation in and demonstration of advanced SCUBA techniques, including specialty training in compass and natural navigation, perfect buoyancy, search and recovery, limited visibility and night diving, and computer diving. (3601085423) Prerequisites: KINE 1151; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

KINE 1153 - LIFEGUARD TRAINING
1 Credit (3 hrs. lab.) Lifeguard training includes instruction in all necessary lifeguard/lifesaving techniques to certify students as specified by the American Red Cross or the YMCA. (3601085323) Prerequisites: Ability to swim; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

KINE 1154 - SCUBA DIVEMASTER
1 Credit (3 hrs. lab.) Preparation for Divemaster certification. This course includes Stress and Rescue, First Aid, CPR certification and other specialty training
necessary for entering a professional Divemaster program. (3601085323) Prerequisites: KINE 1151; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

KINE 1171 - VENTURE DYNAMICS I
1 Credit (3 hrs. lab.) Venture Dynamics I is an outdoor adventure course with emphasis on instruction and practice of basic skills in a variety of outdoor adventure activities, during which the student learns the basic skills of interpersonal and intrapersonal dynamics. (3601085128) Prerequisite: None

KINE 1172 - BACKCOUNTRY EXPEDITIONING I
1 Credit (3 hrs. lab.) This is an experiential outdoor adventure course with emphasis on the instruction in and practical aspects of extended travel and living in wilderness environments. Topics include expedition behavior, group dynamics, nutrition, health and sanitation, navigation, and specialized travel techniques. (3601085128) Prerequisite: None

KINE 1173 - ROCK CLIMBING I
1 Credit (3 hrs. lab.) Rock Climbing I is an outdoor activity course designed to teach the basic skills, safety techniques, concepts, and equipment used in beginning rock climbing. (3601085128) Prerequisite: None

KINE 1174 - HORSEMANSHIP
1 Credit (3 hrs. lab.) Horsemanship is a beginning course that guides the student through the proper execution of horseback riding techniques, safety principles for horse and rider, and proper care of the horse and equipment. (3601085128) Prerequisite: None

KINE 1180 - SWIMMING I
1 Credit (3 hrs. lab.) Swimming I is an aquatic skill course that teaches the basic swimming skills, strokes, and safety techniques to instill confidence in the beginning swimmer. (3601085128) Prerequisite: None

KINE 1181 - CANOEING I
1 Credit (3 hrs. lab.) Canoeing is an aquatic activity skill course with emphasis on instruction, safety, and practice of beginning canoeing techniques. (3601085128) Prerequisite: None

KINE 1301 - FOUNDATIONS OF PHYSICAL EDUCATION/KINESIOLOGY
3 Credits (3 hrs. lec.) Foundations of Physical Education/Kinesiology is an orientation lecture course for physical education/kinesiology majors and minors. It includes information about the nature and foundations of the discipline, history of the field, career preparation and opportunities, and issues and challenges confronting the profession. This course is intended for majors and will not fulfill the KINE activity requirement. (3105015223) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

KINE 1304 - PERSONAL HEALTH
3 Credits (3 hrs. lec.) Personal Health is a lecture course designed for the health-education major or as a general elective. Fundamentals of personal health will be presented, including topics such as nutrition, mental health, stress management, drugs, and maintenance of physical health and fitness. This course is intended for majors and will not fulfill the KINE activity requirement. (5115045116) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

KINE 1306 - FIRST AID AND SAFETY
3 Credits (3 hrs. lec.) This course emphasizes the principles of first aid including bleeding control, splinting, and CPR for the adult, child and infant. It is designed for students to obtain American Red Cross certification or American Heart Association in First Aid and CPR. It may be taken as an elective. However, it is required for physical education/kinesiology majors. This course will not fulfill the KINE activity requirement. (5115045316) Prerequisite/Corequisite: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

KINE 1308 - SPORTS OFFICIATING I
3 Credits (2 hrs. lec., 2 hrs. lab.) Sports Officiating I is designed to teach the rules and mechanics of umpiring or officiating one of the following sports: baseball, softball; or volleyball. Certification to umpire or officiate in the Texas Association of Sports Officials or comparable associations is a major objective of this course. (3101015223) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

KINE 1309 - SPORTS OFFICIATING II
3 Credits (2 hrs. lec., 2 hrs. lab.) Sports Officiating II is designed to teach the rules and mechanics of officiating one of the following sports: basketball or football. Certification to officiate in the Texas Association of Sports Officials or comparable associations is a major objective of this course. (3101015123) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL...
DESCRIPTION OF COURSES

0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

KINE 1331 - KINESIOLOGY FOR ELEMENTARY EDUCATION MAJORS
3 Credits (3 hrs. lec.) Kinesiology for elementary education majors is a state required three-hour course for Kinesiology (physical education) majors and minors. Theoretical principles, including the four domains of movement, school observations, recognizing the different approaches needed for teaching movement to children vs. adults and understanding the realistic issues confronting the contemporary elementary educator are discussed. (3105015223) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

KINE 2111 - FITNESS AND WELLNESS II
1 Credit (1 hr. lec., 2 hrs. lab.) Continuation of KINE 1111. Muscular endurance and flexibility are assessed. Students apply concepts of wellness principles, including nutrition, diet, and weight control, and fitness concepts of cardio respiratory endurance, muscular strength, muscular endurance, and flexibility. (3601085123) Prerequisites: KINE 1111; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

KINE 2112 - WEIGHT TRAINING II
1 Credit (3 hrs. lab.) Weight Training II is a continuation of KINE 1112, in which students apply muscular strength, flexibility, endurance and wellness concepts learned in KINE 1112. (3601085123) Prerequisites: KINE 1112; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

KINE 2113 - JOGGING II
1 Credit (3 hrs. lab.) Jogging II is a continuation of Jogging I with students increasing their fitness level. Students increase knowledge and apply the wellness concepts. Participation in local fun runs is encouraged as well as learning to set up specific training programs. (3601085123) Prerequisite: None

KINE 2114 - AEROBICS II
1 Credit (3 hrs. lab.) Aerobics II is a continuation of Aerobics I structured for cardiovascular fitness, muscular endurance, muscular strength, and flexibility. Wellness principles are presented and integrated into this physical activity course. (3601085123) Prerequisite: KINE 1114

KINE 2116 - AQUA AEROBICS II
1 Credit (3 hrs. lab.) Aqua Aerobics II is a continuation of Aqua Aerobics I. (3601085123) Prerequisite: KINE 1116

KINE 2122 - BOWLING II
1 Credit (3 hrs. lab.) This intermediate bowling course is designed to increase students skill level through drills, skills, and practice. There are applications of intermediate skill level strategies. (3601085123) Prerequisite: KINE 1122

KINE 2123 - GOLF II
1 Credit (3 hrs. lab.) Golf II is an advanced course emphasizing golf techniques, skills, and mental preparation in competitive situations. (3601085123) Prerequisite: KINE 1123

KINE 2124 - RACQUETBALL II
1 Credit (3 hrs. lab.) Racquetball II is a continuation of Racquetball I involving advanced techniques and strategies of the game needed for a higher level of competition. (3601085123) Prerequisite: KINE 1124

KINE 2125 - TENNIS II
1 Credit (3 hrs. lab.) Tennis II is designed to develop and improve skill levels in serving, forehand and backhand drives, lobs, and volleys. Performance strategies for both singles and doubles are drilled. (3601085123) Prerequisite: KINE 1125

KINE 2127 - KARATE II
1 Credit (3 hrs. lab.) Students will work on intermediate karate skills and techniques and participate in the leadership aspects of this sport. (3601085123) Prerequisite: KINE 1127

KINE 2128 - YOGA II
1 Credit (3 hrs. lab.) This course is a continuation of Yoga I. The course will offer intermediate level practice of Yoga. Students will study the history and intermediate terms along with philosophical principles of the movements and Yoga as a concept. (3601085123) Prerequisite: KINE 1128 or instructor approval

KINE 2130 - TAI CHI II
1 Credit (3 hrs. lab.) This course builds upon the styles and forms of Tai Chi I. Students are introduced to Tai Chi sword. Students will apply the physiological principles and philosophies of Tai Chi. (3601085123) Prerequisite: KINE 1130
KINE 2131 - BASKETBALL II
1 Credit (3 hrs. lab.) Basketball II emphasizes instruction and practice of intermediate basketball techniques and skills. The course includes extensive participation in game situations to increase knowledge of offensive and defensive strategy, teamwork, and safety aspects of the game. (3601085123) Prerequisite: KINE 1131

KINE 2132 - VOLLEYBALL II
1 Credit (3 hrs. lab.) Volleyball II is a continuation of Volleyball I with emphasis on the instruction and practice of intermediate volleyball techniques and skills. The course includes extensive practice of intermediate skills and participation in game situations with application of rules, offensive and defensive strategy, teamwork, and safety aspects. (3601085123) Prerequisite: KINE 1132

KINE 2133 - SOFTBALL II
1 Credit (3 hrs. lab.) Students will receive instruction at the intermediate level of skill development in throwing, batting, fielding, and base running. Students will apply knowledge of offense and defense strategies through teamwork and competitive interclass play. (3601085123) Prerequisite: KINE 1133

KINE 2134 - SOCCER II
1 Credit (3 hrs. lab.) Soccer II is a continuation of Soccer I focusing on skills for individual improvement. Students practice officiating games utilizing knowledge of game rules, history of the game, and rules of tournament play. (3601085123) Prerequisite: KINE 1134

KINE 2135 - BASEBALL II
1 Credit (3 hrs. lab.) Students will receive instruction at the intermediate level of skill development in throwing, batting, fielding, and base running. Students will apply knowledge of baseball strategies through teamwork and competitive play. (3601085123) Prerequisite: KINE 1135

KINE 2141 - BALLET II
1 Credit (3 hrs. lab.) This course is a continuation of Ballet I. The course will be intermediate level ballet technique at the barre and center. Students will learn advanced terms and history of this classical form and create an original piece of choreography. Not transferable as a fine arts credit. (3601085123) Prerequisite: KINE 1141 or instructor approval

KINE 2143 - MODERN DANCE II
1 Credit (3 hrs. lab.) This course is a continuation of Modern Dance 1143. It provides intermediate instruction and practice in modern dance technique. Emphasis continues to be upon placement, alignment, technique, and terminology. The history of Modern dance is studied more thoroughly. (3601145123) Prerequisite: KINE 1143 or instructor approval

KINE 2145 - JAZZ DANCE II
1 Credit (3 hrs. lab.) This course is a continuation of Jazz Dance 1145. It provides intermediate instruction and practice in jazz dance technique. Emphasis continues to be upon placement, alignment, technique, and terminology. The history of jazz dance is studied more thoroughly. (3601145123) Prerequisite: KINE 1145 or instructor approval

KINE 2146 - COUNTRY AND WESTERN DANCE II
1 Credit (3 hrs. lab.) Country and Western Dance II is a continuation of Country and Western Dance I, in which the student learns popular advanced steps. (3601145123) Prerequisite: KINE 1146

KINE 2173 - ROCK CLIMBING II
1 Credit (3 hrs. lab.) Rock Climbing II is a continuation of Rock Climbing I, designed to teach advanced topics and techniques of rock climbing. (3601085128) Prerequisite: KINE 1173

KINE 2174 - ADVANCED HORSEMANSHIP
1 Credit (3 hrs. lab.) This course will provide instruction on advanced execution of horseback riding techniques, detailed knowledge of horseback riding, equine training, care, and safety aspects needed to enjoy a more advanced level of horsemanship. (3601085128) Prerequisite: KINE 1174

KINE 2180 - SWIMMING II
1 Credit (3 hrs. lab.) Swimming II is a continuation of Swimming I in which the student learns advanced strokes with an emphasis on lap swimming. (3601085128) Prerequisite: KINE 1180

LGLA 1171 - PREPARING FOR LEGAL EMPLOYMENT
1 Credit (1 hr. lec.) This course prepares the paralegal student in the specific job-finding skills necessary for the legal environment. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: LGLA 2305

LGLA 1219 - PARALEGAL ETHICS
2 Credits (2 hrs. lec.) Presents ethical and legal responsibilities as well as rules of professional responsibility a paralegal owes to the public, the court, clients, and colleagues. Includes a review of the canons and codes. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite
DESCRIPTION OF COURSES

LGLA 1303 - LEGAL RESEARCH
3 Credits (3 hrs. lec.) Presents legal research techniques emphasizing the paralegal's role. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

LGLA 1307 - INTRODUCTION TO LAW AND LEGAL PROFESSIONS
3 Credits (3 hrs. lec.) Overview of the law and the legal professions including legal concepts, systems, and terminology; substantive areas of law and the federal and state judicial systems; ethical obligations and regulations; professional trends and issues with emphasis on the paralegal’s role. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

LGLA 1317 - LAW OFFICE TECHNOLOGY
3 Credits (3 hrs. lec.) Computer technology and software applications within the law office emphasizing the paralegal’s role in the use of law office technology. Prerequisites: LGLA 1307, LGLA 1345 and ITSC 1301.

LGLA 1323 - EMPLOYMENT LAW
3 Credits (3 hrs. lec.) Presents the fundamental concepts of employment law, including employment contracts, at-will employment, governmental regulations, and discrimination issues, emphasizing the paralegal’s role in employment law. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

LGLA 1341 - ADMINISTRATIVE LAW
3 Credits (3 hrs. lec.) An introduction to fundamental concepts of administrative law and procedure including creation of governmental agencies, operation, rulemaking, and adjudication and emphasizes the paralegal’s role in the administrative process. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

LGLA 1343 - BANKRUPTCY LAW
3 Credits (3 hrs. lec.) Fundamental concepts of bankruptcy law and procedure are presented including individual and business liquidation and reorganization with emphasis on the paralegal’s role. Prerequisites ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL0307 or ENGL0375 or ENGL0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

LGLA 1345 - CIVIL LITIGATION
3 Credits (3 hrs. lec.) Presents fundamental concepts and procedures of civil litigation including pretrial, trial, and post-trial phases of litigation and emphasizes the paralegal’s role in civil litigation. Prerequisites: LGLA 1307; ENGL0305 or ENGL0365 or ENGL0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

LGLA 1349 - CONSTITUTIONAL LAW
3 Credits (3 hrs. lec.) An overview of the United States Constitution and its articles, amendments, and judicial interpretations. Includes separation of powers, checks and balances, governmental structures and process, and individual rights in relation to government. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

LGLA 1353 - WILLS, TRUSTS AND PROBATE ADMINISTRATION
3 Credits (3 hrs. lec.) This course presents fundamental concepts of the law of wills, trusts, and probate administration with emphasis on the paralegal’s role. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

LGLA 1355 - FAMILY LAW
3 Credits (3 hrs. lec.) Fundamental concepts of family law including formal and informal marriages, divorce, annulment, marital property, and the parent-child relationship with emphasis on the paralegal’s role in family law. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

LGLA 1359 - IMMIGRATION LAW
3 Credits (3 hrs. lec.) Presents fundamental concepts of immigration law including substantive and procedural law related to visa applications, deportation, naturalization, and citizenship emphasizing the paralegal’s role in immigration law. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.
LGLA 2303 - TORTS AND PERSONAL INJURY LAW
3 Credits (3 hrs. lec.) Fundamental concepts of tort and personal injury law including intentional torts, negligence, and strict liability with emphasis on the paralegal’s role. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 2305 - INTERVIEWING AND INVESTIGATING
3 Credits (3 hrs. lec.) A study of techniques used to locate, gather, document, and manage information with emphasis on developing interview and investigative skills and the paralegal’s role in interviewing and investigating legal matters. Prerequisites: LGLA 1307; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 2309 - REAL PROPERTY
3 Credits (3 hrs. lec.) Presents fundamental concepts of real property law including the nature of real property, rights and duties of ownership, land use, voluntary and involuntary conveyances, and the recording of and searching for real estate documents emphasizing the paralegal’s role in real property law. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 2311 - BUSINESS ORGANIZATIONS
3 Credits (3 hrs. lec.) Basic concepts of business organizations including law of agency, sole proprietorships, partnerships, corporations, and other emerging business entities with emphasis on the paralegal’s role. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 2313 - CRIMINAL LAW AND PROCEDURE
3 Credits (3 hrs. lec.) Fundamental concepts of criminal law and procedure from arrest to final disposition including principles of federal and state law emphasizing the role of the paralegal in the criminal justice system. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 2315 - OIL AND GAS LAW
3 Credits (3 hrs. lec.) Presents fundamental concepts of oil and gas law, including relationships between landowners and oil and gas operators, government regulation, and documents used in the industry stressing the paralegal’s role in oil and gas law. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 2323 - INTELLECTUAL PROPERTY
3 Credits (3 hrs. lec.) Presents the fundamentals of intellectual property law, including creation, procurement, preparation, and filing documents related to patents, copyrights, trademarks, and the processes of intellectual property litigation. Emphasizes the paralegal’s role in intellectual property law. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 2331 - ADVANCED LEGAL RESEARCH AND WRITING
3 Credits (3 hrs. lec.) Builds on previous legal research and writing courses and covers standard and electronic research techniques and preparation of complex legal documents with emphasis on the paralegal’s role. Prerequisites: LGLA 1303 and completion of 12 LGLA credits; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 2370 - RULES OF CIVIL PROCEDURE
3 Credits (3 hrs. lec.) An in-depth study of both state and federal rules of civil procedure. Designed to make the paralegal student extremely knowledgeable in locating the proper rules in either jurisdiction. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 2388 - INTERNSHIP - PARALEGAL/LEGAL ASSISTANT
3 Credits (18 hrs. ext.) The internship is a work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college, the student, and the employer. Prerequisites: 15 LGLA credits, Enrollment in paralegal AAS or certificate program, approval of instructor; ENGL 0305 or ENGL 0365
LMGT 1319 - INTRODUCTION TO BUSINESS LOGISTICS
3 Credits (3 hrs. lec.) A systems approach to managing activities associated with traffic, transportation, inventory management, warehousing, packaging, order processing, and materials handling. Prerequisite: None

LMGT 1321 - INTRODUCTION TO MATERIALS HANDLING
3 Credits (3 hrs. lec.) Introduces the concepts and principles of materials management to include inventory control and forecasting activities. Prerequisite: None

LMGT 1323 - DOMESTIC AND INTERNATIONAL TRANSPORTATION MANAGEMENT
3 Credits (3 hrs. lec.) An overview of the principles and practices of transportation and its role in the distribution process. Emphasis on the physical transportation systems involved in the United States as well as on global distribution systems. Topics include carrier responsibilities and services, freight classifications, rates, tariffs, and public policy and regulations. Also includes logistical geography and the development of skills to solve logistical transportation problems and issues. Prerequisites: LMGT 1319; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LMGT 1345 - ECONOMICS OF TRANSPORTATION AND DISTRIBUTION
3 Credits (3 hrs. lec.) A study of the basic economic principles and concepts applicable to transportation and distribution. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LMGT 1393 - SPECIAL TOPICS IN LOGISTICS AND MATERIALS MANAGEMENT
3 Credits (3 hrs. lec.) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LMGT 1425 - WAREHOUSE AND DISTRIBUTION CENTER MANAGEMENT
4 Credits (3 hrs. lec., 2 hrs. lab.) Emphasis on physical distribution and total supply chain management. Includes warehouse operations management, hardware and software operations, bar codes, organizational effectiveness, just-in-time, and continuous replenishment. Prerequisite: None

LMGT 2434 - PRINCIPLES OF TRAFFIC MANAGEMENT
4 Credits (3 hrs. lec., 3 hrs. lab.) A study of the role and functions of a transportation traffic manager within a commercial or public enterprise. Includes training in rate negotiation, carrier and mode selection, carrier service evaluation, quality control, traffic pattern analysis, documentation for domestic and international shipments, claims, hazardous materials movement, and the state, federal, and international environments of transportation. Prerequisites: LMGT 1319; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MAIL 1449 - REFRIGERATORS, FREEZERS, WINDOW AIR CONDITIONERS
4 Credits (3 hrs. lec., 3 hrs. lab.) Theory, sequence of operation, components and repair, electrical schematics, and troubleshooting electronic components in air conditioning and refrigeration. Emphasis on safety for the electrical, mechanical, and sealed systems. Prerequisites: HART 1441 and HART 1445

MATH 0110 - BASIC MATH SKILLS - THEA REVIEW
1 Credit (3 hrs. lab.) This is an individualized, laboratory course designed to review the 10 mathematical skills that are covered on the THEA exam. Included are topics covered in pre-algebra (fundamental mathematics), basic algebra, and geometry. Instruction focuses on individual needs. This course carries institutional credit but will not transfer and will not be used to meet degree requirements, nor is it an alternative for the MATH 0306 Pre-algebra Mathematics, MATH 0308 Introductory Algebra or MATH 0310 Intermediate Algebra. Prerequisite: MATH 0310

MATH 0111 - DEVELOPMENTAL MATH SKILLS REVIEW
1 Credit (1 hr. lec.) This course is established to accommodate students desiring non-course based remediation in developmental mathematics. This structure will best serve students whose assessment score is borderline for an entry course in college level mathematics or a subsequent course in the developmental sequence. The course may be delivered in a
traditional or hybrid format, so students must be able to thrive in a self-directed study environment. This course carries institutional credit but will not transfer nor be used to meet degree requirements. (3201045119) Prerequisite: Instructor approval

MATH 0306, 0308 and 0310 listed below are offered with multiple course format options. Consult with advisor for proper placement.

MATH 0306 - PRE-ALGEBRA MATHEMATICS
3 Credits (3 hrs. lec.) Topics for all formats include basic arithmetic operations on integers and rational numbers, order of operations, introduction to basic geometric concepts, simplification of algebraic expressions and techniques of solving simple linear equations. This course carries institutional credit but will not transfer and will not meet degree requirements. (3201045119) Prerequisite: Placement by testing

MATH 0308 - INTRODUCTORY ALGEBRA
3 Credits (3 hrs. lec.) Topics for all formats include basic algebraic operations, solving linear equations and inequalities, laws of integer exponents, factoring, rational expressions, the Cartesian coordinate system, graphing lines, finding equations of lines and solving linear systems. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201045119) Prerequisite: MATH 0306 or placement by testing

MATH 0309 - FOUNDATIONS OF MATHEMATICAL REASONING
3 Credits (3 hrs. lec., 1 hr. lab) This course surveys a variety of mathematical topics needed to prepare students for college level statistics or quantitative reasoning or for algebra-based courses. Topics include: numeracy with an emphasis on estimation and fluency with large numbers; evaluating expressions and formulas; rates, ratios, and proportions; percentages; solving equations; linear models; data interpretations including graphs and tables; verbal, algebraic and graphical representations of functions; exponential models. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201045219) Prerequisite: MATH 0306 or placement by testing. Corequisite: EDUC 1300

MATH 0310 - INTERMEDIATE ALGEBRA
3 Credits (3 hrs. lec., 1 hr. lab.) Topics for all formats include special products and factoring, rational expressions and equations, rational exponents, radicals, radical equations, quadratic equations, absolute value equations and inequalities, complex numbers, equations of lines, an introduction to the function concept, and graphing. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201045219) Prerequisite: MATH 0308 or placement by testing

MATH 0312 - DEVELOPMENTAL MODULAR BASED MATH
3 Credits (3 hrs. lec., 1 hr. lab.) Modular based course focused on pre-algebra, introductory algebra, and intermediate algebra competencies. Students will work on course competencies in MATH 0306, 0308 and 0310 based on placement data. The modular design will allow students to possibly complete more than one course level in a semester. Class meets face-to-face and attendance is required. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. Prerequisite: Placement by testing, MATH 0306, 0308 or 0310.

MATH 0313 - DEVELOPMENTAL MODULAR BASED MATH
3 Credits (3 hrs. lec., 1 hr. lab.) Modular based course focused on pre-algebra, introductory algebra, and intermediate algebra competencies. Students will work on course competencies in MATH 0306, 0308 and 0310 based on placement data. The modular design will allow students to possibly complete more than one course level in a semester. Class meets face-to-face and attendance is required. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. Prerequisite: Placement by testing

MATH 0314 - DEVELOPMENTAL MODULAR BASED MATH
3 Credits (3 hrs. lec., 1 hr. lab.) Modular based course focused on pre-algebra, introductory algebra, and intermediate algebra competencies. Students will work on course competencies in MATH 0306, 0308 and 0310 based on placement data. The modular design will allow students to possibly complete more than one course level in a semester. Class meets face-to-face and attendance is required. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. Prerequisite: Placement by testing

MATH 1314 - COLLEGE ALGEBRA
3 Credits (3 hrs. lec.) In-depth study and applications of polynomial, rational, radical, absolute value, piece-wise-defined, exponential and logarithmic functions, equations, inequalities, graphing skills and systems of equations using matrices. Additional topics such as sequences, series, probability, conics, and inverses may be included. (2701015419) Prerequisites: MATH 0310 or placement by testing; Course may be taken as a corequisite with ENGL 0305 or ENGL 0365 AND ENGL 0307
MATH 1316 - TRIGONOMETRY
3 Credits (3 hrs. lec.) Trigonometric functions and their applications, solutions of right and obtuse triangles, trigonometric identities and equations, inverse trigonometric functions, graphs of the trigonometric functions, vectors and polar coordinates. (2701015319) Prerequisite: MATH 1314 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or ENGL 0375

MATH 1324 - FINITE MATHEMATICS
3 Credits (3 hrs. lec.) Matrices, systems of equations, linear programming, the simplex method, probability, and mathematics of finance. Primarily for business majors and liberal arts students. (2703015219) Prerequisites: Math 0310 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0309

MATH 1325 - ELEMENTS OF CALCULUS WITH APPLICATIONS
3 Credits (3 hrs. lec.) A one-semester calculus course for non-science majors. Topics include limits, continuity, rates of change, differentiation and integration techniques and applications, calculus of the logarithmic and exponential functions and partial derivatives. (2703015319) Prerequisites: MATH 1314 or MATH 1324 or placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing

MATH 1332 - COLLEGE MATHEMATICS FOR LIBERAL ARTS
3 Credits (3 hrs. lec.) College Mathematics for Liberal Arts is a course designed for liberal arts and other non-mathematics, non-science, and nonbusiness majors, emphasizing an appreciation of the art, history, beauty, and applications of mathematics. Topics may include, but are not limited to, sets, logic, number theory, measurement, geometric concepts, and an introduction to probability and statistics. (2701015719) Prerequisites: MATH 0310 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

MATH 1342 - STATISTICS
3 Credits [Offered as 3 hrs. lec. or 3 hrs. lec. 1 hr. lab options by college] Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Use of appropriate technology is recommended. (2705015119) Prerequisites: MATH 0309 or 0310 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or ENGL 0375

MATH 1350 - FOUNDATIONS OF MATHEMATICS I
3 Credits (3 hrs. lec.) This is designed specifically for students who seek elementary and middle school teacher certification. Topics include set theory, functions, number systems, number theory, emphasis on problem solving and critical thinking. (2701015619) Prerequisite: MATH 1314 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

MATH 1351 - FOUNDATIONS OF MATHEMATICS II
3 Credits (3 hrs. lec.) This is designed specifically for students who seek elementary and middle school teacher certification. Topics include concepts of geometry, probability, and statistics, as well as applications of the algebraic properties of real numbers to concepts of measurement with an emphasis on problem solving and critical thinking. (2701015719) Prerequisites: MATH 1314 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

MATH 2318 - LINEAR ALGEBRA
3 Credits (3 hrs. lec.) Matrices and linear systems, determinants, vector spaces, linear independence, basis and dimension, change of basis, linear transformations, similarity, inner product spaces, eigenvalues and eigenvectors, and diagonalization. Applications of these concepts will also be considered. (2701016119) Prerequisites: MATH 2414; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

MATH 2320 - DIFFERENTIAL EQUATIONS
3 Credits (3 hrs. lec. OR 3 hrs. lec., 1 hr. lab.) Linear equations, solutions in series, solutions using Laplace transforms, systems of differential equations and applications to problems in engineering and allied fields. (2703015119) Prerequisites: MATH 2414; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

MATH 2412 - PRECALCULUS
4 Credits (4 hrs. lec., 1 hr. lab.) An integrated treatment of the concepts necessary for calculus beginning with a review of algebraic and transcendental functions including trigonometric functions. Topics also include the binomial theorem, analytic geometry, vector algebra, polar and parametric equations, mathematical induction and sequences and series (2701015819) Prerequisites: MATH 1314 and MATH 1316 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307
MATH 2413, 2414 and 2415 are offered with two lecture/lab options: 3 hrs. lec., 3 hrs. lab. OR 4 hrs. lec., 1 hr. lab.

MATH 2413 - CALCULUS I
4 Credits (3 hrs. lec., 3 hrs. lab. OR 4 hrs. lec., 1 hr. lab.) Limits and continuity; the Fundamental Theorem of Calculus; definition of the derivative of a function and techniques of differentiation; applications of the derivative to maximizing or minimizing a function; the chain rule, mean value theorem, and rate of change problems; curve sketching; definite and indefinite integration of algebraic, trigonometric, and transcendental functions, with an application to calculation of areas. (2701015919) Prerequisites: MATH 2412 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

MATH 2414 - CALCULUS II
4 Credits (3 hrs. lec., 3 hrs. lab. OR 4 hrs. lec., 1 hr. lab.) Differentiation and integration of exponential and logarithmic functions, techniques of integration, applications of the definite integral, the calculus of transcendental functions, parametric equations, polar coordinates, indeterminate forms and L'Hopital's Rule, improper integrals, sequences and series. (2701016219) Prerequisites: MATH 2413; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

MATH 2415 - CALCULUS III
4 Credits (3 hrs. lec., 3 hrs. lab. OR 4 hrs. lec., 1 hr. lab.) Advanced topic in calculus, including three dimensional coordinate systems, limits and continuity of multivariable functions, partial derivatives, directional derivatives, the gradient, extreme values, multiple integration, the calculus of vector valued functions and line and surface integrals. (2701015919) Prerequisites: MATH 2414; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

MCHN 1302 - PRINT READING FOR MACHINE TRADES
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of blueprints for machining trades with emphasis on machine drawings. Prerequisite: None

MCHN 1319 - MANUFACTURING MATERIALS AND PROCESSES
3 Credits (2 hrs. lec., 4 hrs. lab.) A basic study of various materials used in the manufacturing industry and the chemical, physical, and mechanical properties of various materials. Emphasis on manufacturing processes, including casting, forming, and machining. Prerequisite: None

MCHN 1320 - PRECISION TOOLS AND MEASUREMENT
3 Credits (2 hrs. lec., 2 hrs. lab.) An introduction to the modern science of dimensional metrology. Emphasis on the identification, selection, and application of various types of precision instruments associated with the machining trade. Practice of basic layout and piece part measurements while using standard measuring tools. Prerequisite: None

MCHN 1338 - BASIC MACHINE SHOP I
3 Credits (2 hrs. lec., 2 hrs. lab.) A course that introduces the student to machining fundamentals. The student begins by using basic machine tools including the lathe, milling machine, drill press, power saw, and bench grinder. Machine terminology, theory, math, part layout, and bench work using common measuring tools is included. Emphasis is placed on shop safety, housekeeping, and preventative maintenance. Prerequisite: None

MCHN 1343 - MACHINE SHOP MATHEMATICS
3 Credits (2 hrs. lec., 2 hrs. lab.) Designed to prepare the student with technical, applied mathematics that will be necessary in future machine shop-related courses. Prerequisite: None

MCHN 1352 - INTERMEDIATE MACHINING I
3 Credits (2 hrs. lec., 2 hrs. lab.) Operation of drilling machines, milling machines, lathes, and power saws. Select and use appropriate precision measuring tools. Prerequisites: MCHN 1302, MCHN 1338 Corequisite: MCHN 2341

MCHN 1380 - COOPERATIVE EDUCATION - MACHINE TOOL TECHNOLOGY/MACHINIST
3 Credits (1 hr. lec., 14 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: DFTG 1325, MCHN 1320 and MCHN 1338, OR departmental approval

MCHN 1381 - COOPERATIVE EDUCATION - MACHINE TOOL TECHNOLOGY/MACHINIST
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: MCHN 2331 and MCHN 2334 OR Instructor approval
MCHN 1390 - SPECIAL TOPICS IN MACHINE SHOP ASSISTANT
3 Credits (2 hrs. lec., 4 hrs. lab.) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. An advanced study of manual lathe, milling, and drilling operations. Emphasis on advanced cutting operations of the lathe and milling machines, drill presses, including the use of carbide insert tooling, special tooling, bench assembly, and materials metallurgy. Prerequisite: None

MCHN 1391 - SPECIAL TOPICS IN MACHINE TECHNOLOGY
3 Credits (2 hrs. lec., 4 hrs. lab.) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. The students will design a project, made of metal or industrial plastics, with three or more working pieces. They will then make blueprints, manufacture pieces, and assemble them. The project has to work as designed and all pieces have to meet industrial standards in size and finish. Prerequisites: MCHN 1302, 1338, 1426, 2331 and 2334.

MCHN 1426 - INTRODUCTION TO COMPUTER-AIDED MANUFACTURING (CAM)
3 Credits (2 hrs. lec., 6 hrs. lab.) A study of Computer-Aided Manufacturing (CAM) software which is used to develop applications for manufacturing. Emphasis on tool geometry, tool selection, and the tool library. Prerequisite: None

MCHN 2303 - FUNDAMENTALS OF COMPUTER NUMERIC CONTROLLED (CNC) MACHINE CONTROLS
3 Credits (2 hrs. lec., 2 hrs. lab.) An introduction to G and M codes (RS274-D) necessary to program Computer Numerical Controlled (CNC) machines. Prerequisites: CNC Operator I Certificate; Corequisite: MCHN 2335

MCHN 2305 - MILLWRIGHT III
3 Credits (2 hrs. lec., 2 hrs. lab.) An introduction to bearings and seals. Identification of common bearings and seals. Emphasis on design and installation of seals and bearings, and couplings. Prerequisite: None

MCHN 2331 - OPERATION OF CNC TURNING CENTERS
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of CNC operations with an emphasis on turning centers. Prerequisites: MCHN 1302, 1338, and 1343; Corequisite: MCHN 2334

MCHN 2334 - OPERATION OF CNC MACHINING CENTERS
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of CNC operations with an emphasis on vertical machining centers. Prerequisites: MCHN 1302, 1338, 1343; Corequisite: MCHN 2331.

MCHN 2335 - ADVANCED CNC MACHINING
3 Credits (2 hrs. lec., 2 hrs. lab.) The study of advanced CNC operation with an emphasis on programming and operations of machining and turning centers. Prerequisite: CNC Operator I Certificate; Corequisite: MCHN 2303.

MCHN 2341 - ADVANCED MACHINING I
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of advanced lathe and milling operations. Emphasis on advanced cutting operations of the lathe and milling machines, including the use of special tooling, bench assembly, and materials identification. Corequisite: MCHN 1352

MCHN 2381 - COOPERATIVE EDUCATION - MACHINE TOOL TECHNOLOGY/MACHINIST
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisite: CNC Operator I Certificate and Department Approval.

MCHN 2438 - ADVANCED COMPUTER-AIDED MANUFACTURING (CAM)
4 Credits (2 hrs. lec., 6 hrs. lab.) A study of advanced techniques in Computer-Aided Manufacturing (CAM). Prerequisite: MCHN 1426.

MDCA 1154 - MEDICAL ASSISTING CREDENTIALING EXAM REVIEW
1 Credit (1 hr. lec.) A preparation for the Certified Medical Assistant (American Association of Medical Assistants) or Registered Medical Assistant (American Medical Technologists) credentialing exam. Prerequisites: MDCA 1417; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MDCA 1205 - MEDICAL LAW AND ETHICS
2 Credits (2 hrs. lec.) Instruction in principles, procedures, and regulations involving legal and ethical relationships among physicians, patients, and medical assistants in ambulatory care settings. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL
DESCRIPTION OF COURSES

**MDCA 1210 - MEDICAL ASSISTANT**
**INTERPERSONAL AND COMMUNICATION SKILLS**
2 Credits (2 hrs. lec.) Emphasis on the application of basic psychological principles and the study of behavior as they apply to special populations. Topics include procedures for self-understanding and social adaptability in interpersonal communication with patients and co-workers in an ambulatory care setting. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**MDCA 1264 - MEDICAL ASSISTANT PRACTICUM**
2 Credits (15 hrs. ext.) A practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**MDCA 1348 - PHARMACOLOGY AND ADMINISTRATION OF MEDICATIONS**
3 Credits (2 hrs. lec., 2 hrs. lab.) Instruction in concepts and application of pharmacological principles. Focuses on drug classifications, principles and procedures of medication administration, mathematical systems and conversions, calculation of drug problems, and medico-legal responsibilities of the medical assistant. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**MDCA 1352 - MEDICAL ASSISTANT LABORATORY PROCEDURES**
3 Credits (2 hrs. lec., 2 hrs. lab.) Application of governmental health care guidelines. Includes specimen collection and handling, quality assurance, and quality control. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**MDCA 1409 - ANATOMY AND PHYSIOLOGY FOR MEDICAL ASSISTANTS**
4 Credits (4 hrs. lec.) Emphasis on structure and function of human cells, tissues, organs, and systems with overview of common pathophysiology. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**MDCA 1417 - PROCEDURES IN A CLINICAL SETTING**
4 Credits (2 hrs. lec., 6 hrs. lab.) Emphasis on patient assessment, examination, and treatment as directed by physician. Includes vital signs, collection and documentation of patient information, asepsis, office clinical procedures, and other treatments as appropriate for ambulatory care settings. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

**MDCA 1421 - ADMINISTRATIVE PROCEDURES**
4 Credits (4 hrs. lec., 1 hr. lab.) Medical office procedures including appointment scheduling, medical records creation and maintenance, interpersonal communications, coding, billing, collecting, third party reimbursement, credit arrangements, and computer use in the medical office. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

**MDCA 1443 - MEDICAL INSURANCE**
4 Credits (3 hrs. lec., 2 hrs. lab.) Emphasizes medical office coding for payment and reimbursement by patient or third party payers for ambulatory care settings. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**METL 1266 - PRACTICUM - METALLURGICAL TECHNOLOGY/TECHNICIAN**
2 Credits (14 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisites: METL 1313 and METL 2441

**METL 1301 - INTRODUCTION TO METALLURY**
3 Credits (3 hrs. lec.) A study of refining mechanical and physical properties of ferrous and nonferrous materials including the theory of alloys, heat treatment, and testing. Prerequisite: None

**METL 1313 - INTRODUCTION CORROSION**
3 Credits (3 hrs. lec.) An introduction to internal, external, and atmospheric corrosion including terminology,
causes of common corrosion problems in industry, and general remedies such as cathodic protection, protective coatings, material selection, and chemical treatments. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

METL 1405 - WELDING METALLURGY I
4 Credits (3 hrs. lec., 3 hrs. lab.) An introduction to physical metallurgy and its application related to welding including studies of metal characteristics, testing, effects of alloying and heat treating, and basic properties. Emphasis on conducting tests and metallographic techniques. Prerequisite: None

METL 2401 - INTERNAL CORROSION CONTROL
4 Credits (3 hrs. lec., 3 hrs. lab.) An in-depth study of internal corrosion found in oil and gas wells, pipelines, refineries, process plants, and other industrial installations including the common forms of nondestructive testing, internal corrosion monitoring techniques, and chemical corrosion treatment methods. Prerequisites: METL 1313 and METL 2441

METL 2405 - ATMOSPHERIC CORROSION CONTROL
4 Credits (3 hrs. lec., 3 hrs. lab.) An in-depth study of atmospheric corrosion control by coatings which includes surface preparation, coating selection, coating application, inspection, and failure analysis. Prerequisites: METL 1313 and METL 2441

METL 2441 - CATHODIC PROTECTION
4 Credits (3 hrs. lec., 3 hrs. lab.) An in-depth study of corrosion control of buried or submerged metallic structures utilizing both impressed and galvanic cathodic protection systems. Emphasis on regulatory compliance for pipelines and underground storage tanks. Prerequisite: METL 1313

MRIT 2330 - PRINCIPLES OF MAGNETIC RESONANCE IMAGING
3 Credits (3 hrs. lec.) In-depth coverage of magnetic resonance imaging techniques. Image quality assurance and safety protocols are emphasized. Prerequisite: Departmental approval

MRIT 2334 - MAGNETIC RESONANCE EQUIPMENT AND METHODOLOGY
3 Credits (3 hrs. lec.) Skill development in the operation of magnetic resonance imaging equipment, focusing on routine procedures and safety protocols, image quality, and quality assurance. Prerequisite: Departmental approval

MRIT 2355 - MAGNETIC RESONANCE IMAGING PHYSICS
3 Credits (3 hrs. lec.) A study of Magnetic Resonance Imaging (MRI) physics which includes principles of electrodynamics, pulse sequences, sequence parameters, and spin echo and gradient echo techniques. Prerequisites: MRIT 2330 and departmental approval

MRIT 2360 - CLINICAL - RADIOLOGIC TECHNOLOGY
3 Credits (15 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisite: Departmental approval

MRIT 2361 - CLINICAL - RADIOLOGIC TECHNOLOGY
3 Credits (12 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: MRIT 2360

MRKG 1301 - CUSTOMER RELATIONSHIP MANAGEMENT
3 Credits (3 hrs. lec.) General principles of customer relationship management including skills, knowledge, attitudes, and behaviors. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MRKG 1302 - PRINCIPLES OF RETAILING
3 Credits (3 hrs. lec.) Introduction to the retailing environment, types of retailers, current trends, the employment of retailing techniques, and factors that influence retailing. Prerequisite: None
MRKG  1311 - PRINCIPLES OF MARKETING
3 Credits (3 hrs. lec.) Introduction to the marketing mix functions and process. Includes identification of consumer and organizational needs and explanation of environmental issues. Prerequisite: None

MRKG  2312 - E-COMMERCE MARKETING
3 Credits (3 hrs. lec.) Explore electronic tools utilized in marketing; focus on marketing communications in developing customer relationships. Prerequisite: None

MRKG  2333 - PRINCIPLES OF SELLING
3 Credits (3 hrs. lec.) Overview of the selling process. Identification of the elements of the communication process between buyers and sellers. Examination of the legal and ethical issues of organizations which affect salespeople. Prerequisite: None

MRKG  2348 - MARKETING RESEARCH AND STRATEGIES
3 Credits (3 hrs. lec.) Practical experiences in analyzing marketing studies using data-driven decision-making processes. Includes interrelationships among the components of the marketing mix. Prerequisite: None

MRKG  2349 - ADVERTISING AND SALES PROMOTION
3 Credits (3 hrs. lec.) Integrated marketing communications. Includes advertising principles and practices. Emphasizes multi-media of persuasive communication including buyer behavior, budgeting, and regulatory constraints. Prerequisite: None

MRKG  2380 - CO-OP - BUSINESS MARKETING AND MARKETING MANAGEMENT I
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: Enrollment in Management AAS degree program; completion of 15 credits in degree plan; and departmental approval

MRKG  2388 - INTERNSHIP - BUSINESS MARKETING AND MARKETING MANAGEMENT
3 Credits (9 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: Departmental approval

MRMT  1192 - REVIEW COURSE
1 Credit (1 hr. lec.) A comprehensive review course, which incorporates concepts from all previous medical transcription courses, in preparation for the student licensing exam. Includes application of knowledge, judgment, skills, and professional values within a legal/ethical framework. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MRMT  1266 - PRACTICUM
2 Credits (14 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MSCI  1125 - ARMY PHYSICAL READINESS TRAINING
1 Credit (3 hrs. lab.) A cardio-respiratory physical conditioning class designed to promote high levels of performance measured by the Army Physical Fitness Test (APFT) to improve the health/wellness, endurance, and strength of the body, and to educate on the principles of nutrition, diet and weight control. Utilizes Army physical fitness techniques; develops muscular strength, flexibility and endurance; develops self-confidence to plan, conduct and lead physical training for others through Army leadership training methods and physical activities. A variety of physical activities include standard warm-up and strength/endurance building exercises, timed/progressive repetitions, weight/strength training (cardiovascular), negative-resistance, running (up to two miles), cycling/spinning, and competitive individual/team activities. The course prepares each student for the APFT consisting of 2 minutes execution of push-ups and sit-ups, and a two-mile run. This class, conducted by the Military Science Instructors, uses Army techniques and guidelines during each session. This course satisfies the physical education requirement and may be repeated. Prerequisite: None

MSCI  1271 - LEADERSHIP AND PERSONAL DEVELOPMENT
2 Credits (1 hr. lec., 2 hrs. lab.) Introduction to the personal challenges and competencies that are critical for effective leadership. Students will learn personal development and life skills such as goal setting, time management, physical fitness, and stress management and how they relate to leadership, officer and the Army profession. The focus is on developing basic knowledge and comprehension of Army leadership dimensions while gaining a big picture understanding of the ROTC program, its purpose in the Army, and its advantages for the student. Prerequisite: None
DESCRIPTION OF COURSES

MSCI 1272 - INTRODUCTION TO TACTICAL LEADERSHIP
2 Credits (1 hr. lec., 2 hrs. lab.) Overview of leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback, and using effective writing skills. Cadets explore dimensions of leadership values, attributes, skills, and actions in the context of practical, hands-on, and interactive exercises. Prerequisite: None

MSCI 2271 - INNOVATIVE TEAM LEADERSHIP
2 Credits (2 hrs. lec., 2 hrs. lab.) Explores the dimensions and innovative tactical leadership strategies and styles by examining team dynamics and two historical leadership theories that form the basis of the Army leadership framework. Aspects of personal motivation and team building are practiced by planning, executing, and assessing team exercises and participating in leadership labs. Focus continues to build on developing knowledge of the leadership values and attributes through understanding Army rank, structure, and duties as well as broadening knowledge of land navigation and squad tactics. Case studies will provide a tangible context for learning the Soldier's Creed and Warrior Ethos as they apply in the contemporary operating environment. Prerequisite: None

MSCI 2272 - FOUNDATIONS OF TACTICAL LEADERSHIP
2 Credits (2 hrs. lec., 2 hrs. lab.) Examines the challenges of leading tactical teams in the complex contemporary operating environment (COE). This course highlights dimensions of terrain analysis, patrolling, and operation orders. Continued study of the theoretical basis of the Army leadership framework explores the dynamics of adaptive leadership in the context of military operations. Cadets develop greater self-awareness as they assess their own leadership styles and practice communication and team building skills. COE case studies give insight into the importance and practice of teamwork and tactics in real-world scenarios. Prerequisite: None

APPLIED MUSIC
Private instruction in instruments and voice is available to students majoring or minoring in music and to other students who desire to gain or improve proficiency in individual vocal or instrumental performance. These courses will be taught as instructors are available. Refer to the class schedule each semester for specific course laboratory fees. Fees are due at the time of registration and are not refundable or transferable. (5009035426) Prerequisite: Departmental approval; Corequisite: Enrollment in at least one MUEN or MUSI course.

MUAP 1101 - STRINGS
1 Credit (One 1/2 hour lesson per week)

MUAP 1121 - WOODWINDS
1 Credit (One 1/2 hour lesson per week)

MUAP 1141 - BRASS
1 Credit (One 1/2 hour lesson per week)

MUAP 1157 - PERCUSSION
1 Credit (One 1/2 hour lesson per week)

MUAP 1161 - GUITAR
1 Credit (One 1/2 hour lesson per week)

MUAP 1165 - ORGAN
1 Credit (One 1/2 hour lesson per week)

MUAP 1169 - KEYBOARD
1 Credit (One 1/2 hour lesson per week)

MUAP 1181 - VOICE
1 Credit (One 1/2 hour lesson per week)

MUAP 1187 - HARPSICHORD
1 Credit (One 1/2 hour lesson per week)

MUAP 1201 - STRINGS
2 Credits (Two 1/2 hour lessons per week; two credit hours per semester)

MUAP 1221 - WOODWINDS
2 Credits (Two 1/2 hour lessons per week; two credit hours per semester)

MUAP 1241 - BRASS
2 Credits (Two 1/2 hour lessons per week; two credit hours per semester)

MUAP 1257 - PERCUSSION
2 Credits (Two 1/2 hour lessons per week; two credit hours per semester)

MUAP 1261 - GUITAR
2 Credits (Two 1/2 hour lessons per week; two credit hours per semester)

MUAP 1265 - ORGAN
2 Credits (Two 1/2 hour lessons per week; two credit hours per semester)

MUAP 1269 - KEYBOARD
2 Credits (Two 1/2 hour lessons per week; two credit hours per semester)
**MUAP 2257 - PERCUSSION**
2 Credits (Second year, two 1/2 hour lessons per week; two credit hours per semester)

**MUAP 2261 - GUITAR**
2 Credits (Second year, two 1/2 hour lessons per week; two credit hours per semester)

**MUAP 2265 - ORGAN**
2 Credits (Second year, two 1/2 hour lessons per week; two credit hours per semester)

**MUAP 2269 - KEYBOARD**
2 Credits (Second year, two 1/2 hour lessons per week; two credit hours per semester)

**MUAP 2281 - VOICE**
2 Credits (Second year, two 1/2 hour lessons per week; two credit hours per semester)

**MUAP 2287 - HARPSICHORD**
2 Credits (Second year, two 1/2 hour lessons per week; two credit hours per semester)

**MUEN 1123 - SYMPHONY ORCHESTRA**
1 Credit (3 hrs. lab.) The study and performance of music compositions for full orchestra, including strings, woodwinds, brass, and percussion. Recommended for music majors whose principle performance instrument is violin, viola, cello, or string bass. A maximum of four credit hours may be earned. (5009035526) Prerequisites/Corequisites: Course may be taken as a corequisite with ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117; ENGL 0309 or ENGL 0310 also meets prerequisite/corequisite.

**MUEN 1127 - JAZZ ENSEMBLE**
1 Credit (3 hrs. lab.) The study and performance of big band jazz. Swing, Latin, rock and other jazz styles are included. A maximum of four credit hours may be earned. (5009035526) Corequisite: Course may be taken as a corequisite with ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117; ENGL 0309 or ENGL 0310 also meets prerequisite/corequisite.

**MUEN 1131 - STRING ENSEMBLE**
1 Credit (3 hrs. lab.) This course involves the study and performances of music compositions for small string groups. It is recommended for music majors whose principle performing medium is the violin, viola, or cello. A maximum of four credit hours may be earned. (5009035626) Prerequisite: None

**MUEN 1132 - PIANO ENSEMBLE**
1 Credit (3 hrs. lab.) A course which is designed to
DESCRIPTION OF COURSES

offer students an opportunity to work with piano literature written for two or more performers. A maximum of four credit hours may be earned. (5009035626)

Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

MUEN 1133 - GUITAR ENSEMBLE
1 Credit (3 hrs. lab.) This course involves the study and performances of music compositions for small guitar groups. It is recommended for music majors whose principal performing medium is the guitar. A maximum of four credit hours may be earned. (5009035626)

Prerequisite: None

MUEN 1134 - PERCUSSION ENSEMBLE
1 Credit (3 hrs. lab.) This course involves the study and performance of music compositions for small percussion groups. It is recommended for music majors whose performing medium is percussion. Open to other qualified students by approval of department. A maximum of four credit hours may be earned. (5009035626)

Prerequisites: Audition and departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

MUEN 1135 - STEEL DRUM BAND
1 Credit (3 hrs. lab.) Membership is open to all students on the basis of audition and/or conference to assess the students ability to count fundamental rhythms. Percussionist, vocalist, woodwind, brass, and keyboard players are encouraged to audition. The class meets four hours per week with special rehearsals and performances called as needed. A maximum of four credit hours may be earned. (5009035626)

Prerequisite: None

MUEN 1136 - CHAMBER ENSEMBLE
1 Credit (3 hrs. lab.) Chamber Ensemble is a mixed instrumentation group of wind, string, percussion, and brass players performing chamber [small group] repertoire from any style period. A maximum of four credit hours may be earned. (5009035626)

Prerequisite: None

MUEN 1141 - CONCERT CHOIR
1 Credit (3 hrs. lab.) Concert Choir is a large vocal ensemble performing large-scale sacred and secular works. In addition to local concerts, the group participates in campus activities. The Choir is open to students with vocal experience. A maximum of four credit hours may be earned. (5009035726)

Prerequisites/Corequisites: Course may be taken as a corequisite with ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

MUEN 1151 - CHAMBER SINGERS
1 Credit (3 hrs. lab.) The Chamber Singers are a small vocal ensemble performing sacred and secular choral literature of various eras including madrigals. A maximum of four credit hours may be earned. (5009035826)

Prerequisite: None

MUEN 1154 - POP SINGERS
1 Credit (3 hrs. lab.) The Pop Singers specialize in performing contemporary popular music, including music of radio, TV, motion picture, and Broadway. Some choreography and staging may be involved. A maximum of four credit hours may be earned. (5009035826)

Prerequisite: None

MUEN 2123 - PIANO ENSEMBLE
1 Credit (3 hrs. lab.) A continuation of the study and performances of music composition for full orchestra, including strings, woodwinds, brass, and percussion. Recommended for music majors. A maximum of four credit hours may be earned. (5009035626)

Prerequisite: None

MUEN 2124 - SYMPHONIC BAND
1 Credit (3 hrs. lab.) The study of a wide variety of literature for wind and percussion instruments through rehearsal and performance. Open to all students with instrumental music experience. A maximum of four credit hours may be earned. (5009035526)

Prerequisite: None; Corequisite: Course may be taken as a corequisite with ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375.

MUEN 2133 - WOODWIND ENSEMBLE
1 Credit (3 hrs. lab.) This course involves the study and performance of music compositions for small woodwind groups. It is recommended for music majors whose principle performing medium is a woodwind instrument. A maximum of four credit hours may be earned. (5009035626)

Prerequisite: None

MUEN 2134 - BRASS ENSEMBLE
1 Credit (3 hrs. lab.) This course involves the study and performance of music compositions for small brass groups. It is recommended for music majors whose performing medium is a brass instrument. A maximum of four credit hours may be earned. (5009035626)

Prerequisite: None
MUEN 2135 - JAZZ COMBO
1 Credit (3 hrs. lab.) A study of the techniques involved in the improvisation of a solo in the jazz idiom through rehearsal and performance in a small ensemble. Open to all students with instrumental music experience. A maximum of four credit hours may be earned. (5009035626) Prerequisite: None

MUSC 1191 - PROFESSIONAL DEVELOPMENT FOR MUSICIANS
3 Credits (1 hr. lec. 2 hrs. lab.) This course will assist students in developing the critical skills required to be successful musicians in the professional world. Students will learn how to write professional résumés, CVs, cover letters, and bios; effective audition, rehearsal, and performance technique; and the basics of music law and music business. Prerequisite: departmental approval and audition required.

MUSI 1157 - OPERA WORKSHOP I
1 Credit (3 hrs. lab.) The performance of portions or complete operas and the study of the integration of music, acting and staging of an opera. Students may repeat for four hours of credit. (5009085226) Prerequisites: Audition and departmental approval

MUSI 1158 - OPERA WORKSHOP II
1 Credit (3 hrs. lab.) The performance of portions or complete operas and the study of the integration of music, acting and staging of an opera. Students may repeat for four hours of credit. (5009085226) Prerequisites: Audition and departmental approval

MUSI 1159, 2159 - MUSICAL THEATRE I AND II
1 Credit (5 hrs. lab.) Practical experience in auditioning, rehearsing, and performing in a major musical. (5009036126) Prerequisite: None

MUSI 1160 - ITALIAN DICTION
1 Credit (2 hrs. lab.) Study of phonetic sounds in Italian. This course provides a framework for singing in Italian, including study of the International Phonetic Alphabet. While some grammatical rules will be taught, the course does not attempt to teach the language. (5009085326) Prerequisites: ENGL0305 or ENGL0365 or ENGL0115 AND ENGL0307 or ENGL0375 or ENGL0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL0309 or ENGL0310 also meets prerequisite; Corequisites: MUSI 1182 and 1121

MUSI 1161 - ENGLISH DICTION
1 Credit (2 hrs. lab.) Study of phonetic sounds in English. This course provides a framework for singing in English, including study of the International Phonetic Alphabet (IPA). While some grammatical rules will be taught, the course does not attempt to teach the language. (5009085326) Prerequisites: ENGL0305 or ENGL0365 or ENGL0115 AND ENGL0307 or ENGL0375 or ENGL0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL0309 or ENGL0310 also meets prerequisite; Corequisites: MUSI 1121 and 1181

MUSI 1181, 1182, 2181, 2182 - CLASS PIANO
1 Credit (3 hrs. lab.) Beginning keyboard instruction for the general music major as well as the nonmusic major who wishes to learn piano. The use of electronic pianos permits individual instruction. A maximum of four credit hours may be earned. (5009075126) Prerequisite: None

MUSI 1183, 1184, 2183, 2184 - CLASS VOICE
1 Credit (3 hrs. lab.) Beginning voice instruction for the student who has little or no experience. A maximum of four credit hours of voice classes may be earned. (5009085126) Prerequisite: None

MUSI 1191, 1193, 2192, 2193 - CLASS GUITAR
1 Credit (3 hrs. lab.) Beginning guitar instruction for the general music major as well as the non-music major who wishes to learn guitar. A maximum of four credit hours may be earned. (5009115126) Prerequisite: None

MUSI 1211 - THEORY I
2 Credits (3 hrs. lec.) A study of elementary harmony and part writing up to and including diatonic seventh chords. Analysis and writing of small compositional forms. Correlated study at the keyboard. (5009045126) Prerequisites: ENGL0305 or ENGL0365 or ENGL0115 AND ENGL0307 or ENGL0375 or ENGL0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL0309 or ENGL0310 also meets prerequisite; Corequisites: MUSI 1182 and 1121

MUSI 1212 - THEORY II
2 Credits (3 hrs. lec.) A continuation of MUSI 1211 including modulations, secondary dominants and secondary leading-tone chords. (5009045126) Prerequisites: MUSI 1211; ENGL0305 or ENGL0365 or ENGL0115 AND ENGL0307 or ENGL0375 or ENGL0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL0309 or ENGL0310 also meets prerequisite; Corequisites: MUSI 1182 and 1121

MUSI 1216 - EAR TRAINING AND SIGHT SINGING I
2 Credits (1 hr. lec., 2 hrs. lab.) An aural study (including dictation) of rhythm, melody and diatonic harmony. Singing tonal music in treble, bass, alto and tenor clefs. (5009045626) Prerequisites: ENGL0305 or ENGL0365 or ENGL0115 AND ENGL0307 or ENGL0375 or ENGL0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL0309 or ENGL0310 also meets prerequisite; Corequisites: MUSI 1211 and 1181
DESCRIPTION OF COURSES

MUSI 1217 - EAR TRAINING AND SIGHT SINGING II
2 Credits (1 hr. lec., 2 hrs. lab.) A continuation of MUSI 1216. (5009045626) Prerequisites: MUSI 1216; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: MUSI 1212 and 1182

MUSI 1263 - JAZZ IMPROVISATION I
2 Credits (2 hr. lec., 1 hr. lab.) Materials and practices for improvisation or extemporaneous performance in the jazz idiom. Prerequisite: Departmental approval

MUSI 1264 - JAZZ IMPROVISATION II
2 Credits (2 hr. lec., 1 hr. lab.) Materials and practices for improvisation or extemporaneous performance in the jazz idiom. Prerequisite: Departmental approval

MUSI 1301 - MUSIC FUNDAMENTALS
3 Credits (3 hrs. lec.) A course for developing basic music skills with emphasis on music reading and elementary music theory for the nonmusic major and the classroom teacher. (5009045526) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MUSI 1306 - APPRECIATING MUSIC
3 Credits (3 hrs. lec.) A nontechnical course designed to provide the layperson with the understanding necessary for greater enjoyment of music. (5009025126) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MUSI 1307 - MUSIC LITERATURE
3 Credits (3 hrs. lec.) A study, through lecture, listening, score-analysis, and research, of the literature and stylistic trends of Western art music as well as examples of American popular music and non-Western music. (5009025226) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MUSI 1308 - MUSIC LITERATURE TO 1827
3 Credits (3 hrs. lec.) A study, through lecture and listening, of the literature and stylistic trends of the Baroque and Classical periods. Separate course available for nonmajors. (5009025226) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MUSI 1309 - MUSIC LITERATURE SINCE 1827
3 Credits (3 hrs. lec.) A study, through lecture and listening, of the literature and stylistic trends of the Romantic and Contemporary periods. Separate course available for nonmajors. (5009025326) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MUSI 1310 - AMERICAN MUSIC
3 Credits (3 hrs. lec.) This course is a survey of American popular and art music. Course topics may include the study of blues, jazz, rock, and ragtime and the major artists and other influential persons associated with each genre. Special emphasis is given to the interaction of various native and world musical cultures in the evolution of American musical styles. (5009025326) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MUSI 1386 - POPULAR SONG WRITING I - COMPOSITION
3 Credits (3 hrs. lec.) Instruction in music composition, including small forms for simple media in both traditional styles and styles of the student’s choice. Lyrics, melodies, harmonies, arrangements, performance and studio recording will be covered. (5009045326) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MUSI 1390 - ELECTRONIC MUSIC I
3 Credits (3 hrs. lec.) Introduction to the use of synthesizers, computers, sequencing and other music printing software, and multitrack recorders and other MIDI (Music Instrument Digital Interface) devices in the notation, arrangement, composition, and performance of music. (5009045826) Corequisites: may be taken with ENGL 0305 or ENGL 0365 AND ENGL 0115 or ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MUSI 1391 - ELECTRONIC MUSIC II
3 Credits (3 hrs. lec.) Further study and application of synthesizers, computers, sequencing and music printing software, and multi-track digital recorders. Includes MIDI (Music Instrument Digital Interface) devices used for notation, arrangement, composition, and
DESCRIPTION OF COURSES

MUSI 2160 - GERMAN DICTION
1 Credit (2 hrs. lab.) Study of Phonetic sounds in German. This course provides a framework for singing in German, including study of the International Phonetic Alphabet (IPA). While some grammatical rules will be taught, the course does not attempt to teach the language. (5009085326) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

MUSI 2161 - FRENCH DICTION
1 Credit (2 hrs. lab.) Study of phonetic sounds in French. This course provides a framework for singing in French, including the study of the International Phonetic Language (IPA). While some grammatical rule will be taught, the course does not attempt to teach the language. (5009085326) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

MUSI 2211 - THEORY III
2 Credits (3 hrs. lec.) A study of advanced harmony with emphasis on chromaticism, extended tertian structures and twentieth-century compositional procedures. (5009045226) Prerequisites: MUSI 1212; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: MUSI 2216 and 2181

MUSI 2212 - THEORY IV
2 Credits (3 hrs. lec.) A continuation of MUSI 2211. (5009045226) Prerequisites: MUSI 2211; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: MUSI 2216 and 2181

MUSI 2216 - EAR TRAINING AND SIGHT SINGING III
2 Credits (1 hr. lec., 2 hrs. lab.) An aural study (including dictation) of more complex rhythm, melody, chromatic harmony and extended tertian structures. Singing more difficult tonal music including modulations and modal melodies. (5009045726) Prerequisites: MUSI 1217; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: MUSI 2211 and 2181

MUSI 2217 - EAR TRAINING AND SIGHT SINGING IV
2 Credits (1 hr. lec., 2 hrs. lab.) A continuation of MUSI 2216. (5009045726) Prerequisites: MUSI 2216; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: MUSI 2212 and 2182

MUSI 2386 - POPULAR SONG WRITING II - COMPOSITION
3 Credits (3 hrs. lec.) Individual or class instruction in music composition. Composing in small forms for simple media in both traditional styles and styles of the student's choice. This is a continuation of Music 1386, including the study of lyrics, melodies, harmonies, arrangements, performance and studio recording. (5009045326) Prerequisites: MUSI 1386; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

MUSI 2389 - ACADEMIC CO-OP IN MUSIC
3 Credits (1 hr. lec., 6 hrs. lab.) An instructional program designed to integrate on-campus study with practical hands-on work experience in music. In conjunction with class seminars, the instructor and institutional representative, the individual student will set specific goals and objectives in music. (2401035212) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

NDTE 1301 - FILM INTERPRETATION OF WELDMENTS
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of radiographic film, including exploration of radiographic basics, interpretation, and causes and effects of discontinuities. Prerequisite: None

NDTE 1410 - LIQUID PENETRANT/MAGNETIC PARTICLE TESTING
4 Credits (2 hrs. lec., 4 hrs. lab.) A theoretical study and practical application of the non-destructive testing techniques of penetrant and magnetic particle testing required by quality assurance and test personnel. Prerequisite: None
DESCRIPTION OF COURSES

NDTE 1440 - EDDY CURRENT TESTING
4 Credits (3 hrs. lec., 3 hrs. lab.) General principles of Eddy Current Testing including theory, knowledge, and skills for basic examination; effects of material properties, probe types, calibration standards, and equipment selection. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

NDTE 1454 - INTERMEDIATE ULTRASONICS
4 Credits (2 hrs. lec., 4 hrs. lab.) Applications of the ultrasonic techniques of materials testing for flaw sizing and characterization. Prerequisite: None

NDTE 2311 - PREPARATION FOR CERTIFIED WELDING INSPECTOR EXAM
3 Credits (2 hrs. lec., 2 hrs. lab.) Welding fundamentals, welding inspection and code interpretation in preparation for the certified welding inspector examination. Prerequisite: None

NDTE 2401 - ADVANCED ULTRASONICS
4 Credits (2 hrs. lec., 4 hrs. lab.) Emphasis on examination of components and characterization of flaws using advanced techniques. Prerequisite: None

OSHT 1316 - MATERIAL HANDLING
3 Credits (3 hrs. lec.) Proper methods for material handling and storage including safety practices, proper equipment usage, engineering controls, and personal protective equipment. Prerequisite: None

OTHA 1241 - OCCUPATIONAL PERFORMANCE FROM BIRTH THROUGH ADOLESCENCE
2 Credits (1 hrs. lec., 4 hrs. lab.) Occupational performance of newborns through adolescents. Includes frames of reference, evaluation tools and techniques, and intervention strategies. Prerequisites: OTHA 1315 and PSYC 2314; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

OTHA 1301 - INTRODUCTION TO OCCUPATIONAL THERAPY
3 Credits (3 hrs. lec.) Introduction to the historical development and philosophy of the profession of occupational therapy. Emphasis on the roles and functions of the occupational therapy assistant in current health care environments including moral, legal, and ethical issues. Prerequisites: Admission to the OTA program; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

OTHA 1309 - HUMAN STRUCTURE AND FUNCTION IN OCCUPATIONAL THERAPY
3 Credits (2 hrs. lec., 2 hrs. lab.) Study of the biomechanics of human motion. Emphasis on the musculoskeletal system including skeletal structure, muscles and nerves, and biomechanical assessment procedures. Prerequisites: OTHA 1301 and 1315; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

OTHA 1315 - THERAPEUTIC USE OF OCCUPATIONS OR ACTIVITIES I
3 Credits (2 hrs. lec., 2 hrs. lab.) Various occupations or activities used as therapeutic interventions in occupational therapy. Emphasis on awareness of activity demands, contexts, adapting, grading, and safe implementation of occupations or activities. Prerequisites: Admission to the OTA program; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

OTHA 1319 - THERAPEUTIC INTERVENTIONS I
3 Credits (2 hrs. lec., 3 hrs. lab.) Concepts, techniques, and assessments leading to proficiency in skills and activities used as treatment interventions in occupational therapy (OT). Emphasizes the occupational therapy assistant’s role in the OT process. Prerequisites: OTHA 1309 and 2301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

OTHA 1253 - OCCUPATIONAL PERFORMANCE FOR ELDERS
2 Credits (1 hrs. lec., 4 hrs. lab.) Occupational performance of elders. Includes frames of reference, evaluation tools and techniques, and intervention strategies. Prerequisites: OTHA 2309 and 2331; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

OTHA 2166 - PRACTICUM - OCCUPATIONAL THERAPY ASSISTANT
1 Credit (7 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and stu-
DESCRIPTION OF COURSES

OTHA 2301 - PATHOPHYSIOLOGY FOR OCCUPATIONAL THERAPY
3 Credits (3 hrs. lec.) Pathology and general health management of diseases and injuries across the lifespan encountered in occupational therapy treatment settings. Includes etiology, symptoms, and the client's physical and psychological reactions to disease and injury. Prerequisites: OTHA 1301 and BIOL 2401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

OTHA 2302 - THERAPEUTIC USE OF OCCUPATIONS OR ACTIVITIES II
3 Credits (2 hrs. lec., 3 hrs. lab.) Continuation of OTHA 1315: Therapeutic Use of Occupations or Activities I. Emphasis on advanced techniques and applications used in traditional and non-traditional practice settings. Prerequisites: OTHA 1315; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

OTHA 2309 - MENTAL HEALTH IN OCCUPATIONAL THERAPY
3 Credits (2 hrs. lec., 3 hrs. lab.) Promotion of mental health and wellness through occupational therapy. Topics include theory and intervention strategies to enhance occupational performance. Prerequisites: OTHA 1301 and PSYC 2301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

OTHA 2331 - PHYSICAL FUNCTION IN OCCUPATIONAL THERAPY
3 Credits (2 hrs. lec., 3 hrs. lab.) Physical function to promote occupational performance. Includes frames of reference, assessment/evaluation tools and techniques, patient/client education, and intervention strategies. Prerequisites: OTHA 1315 and BIOL 2401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

OTHA 2335 - HEALTH CARE MANAGEMENT IN OCCUPATIONAL THERAPY
3 Credits (3 hrs. lec.) Explores the roles of the occupational therapy assistant in health care delivery. Topics include documentation, reimbursement, credentialing, ethical standards, health care team role delineation, and management. Prerequisites: OTHA 1315 and 2302; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

OTHA 2460 - CLINICAL - OCCUPATIONAL THERAPY ASSISTANT
4 Credits (20 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational therapy, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: OTHA 1319, 1341, 1353, 2335, and 2166; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

OTHA 2461 - CLINICAL - OCCUPATIONAL THERAPY ASSISTANT
4 Credits (20 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: OTHA 1319, 1341, 1353, 2335, and 2166; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

PHED 1164 - INTRODUCTION TO PHYSICAL FITNESS & SPORT
1 Credits (2 hrs. lec.) Introduction to Physical Fitness & Sport is a cardiorespiratory fitness course in which students participate in a self-paced walking, jogging, or stationary cycling program. Muscular endurance and flexibility exercise are presented. The course includes an introduction to facts, concepts, and application of wellness principles, such as, nutrition, diet and weight control. Prerequisites: None; Corequisites: ENGL 0305, ENGL 0307 or Developmental ENGL equivalent or ESOL equivalent

PHIL 1301 - INTRODUCTION TO PHILOSOPHY
3 Credits (3 hrs. lec.) A study of major issues in philosophy and/or the work of major philosophical figures in philosophy. Topics in philosophy may include theories of reality, theories of knowledge,
DESCRIPTION OF COURSES

theories of value, and their practical applications. (3801015112) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PHIL 1304 - INTRODUCTION TO WORLD RELIGIONS
3 Credits (3 hrs. lec.) A comparative study of world religions, including but not limited to Hinduism, Buddhism, Judaism, Christianity, and Islam (3802015212) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PHIL 2303 - INTRODUCTION TO FORMAL LOGIC
3 Credits (3 hrs. lec.) The purpose of the course is to introduce the student to symbolic logic, including syllogisms, propositional and predicate logic, and logical proofs in a system of rules. (3801015212) Prerequisites: MATH 0310; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PHIL 2306 - INTRODUCTION TO ETHICS
3 Credits (3 hrs. lec.) The systematic evaluation of classical and/or contemporary ethical theories concerning the good life, human conduct in society, morals, and standards of value. (3801015312) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PHIL 2307 - INTRODUCTION TO SOCIAL AND POLITICAL PHILOSOPHY
3 Credits (3 hrs. lec.) A study of major issues in social and political theory and/or the work of major philosophical figures in this area. (3801015412) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PHIL 2316 - CLASSICAL PHILOSOPHY
3 Credits (3 hrs. lec.) A study of major philosophers and philosophical themes from the ancient through medieval periods. (3801015512) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PHIL 2317 - 17TH AND 18TH CENTURY PHILOSOPHY
3 Credits (3 hrs. lec.) A study of major philosophers and philosophical themes from the seventeenth through the eighteenth centuries. (3801015512) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PHIL 2318 - 19TH & 20TH CENTURY PHILOSOPHY
3 Credits (3 hrs. lec.) A study of major philosophers and philosophical themes from the nineteenth century to the present. (3801015512) Prerequisite: ENGL 1301 or instructor approval.

PHIL 2321 - PHILOSOPHY OF RELIGION
3 Credits (3 hrs. lec.) A study of the major issues in the philosophy of religion such as the existence and nature of God, the relationships between faith and reason, the nature of religious language, religious experience, and the problem of evil. (3802015312) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PHRA 1102 - PHARMACY LAW
1 Credit (1 hr. lec.) Overview of federal and state laws governing the practice of pharmacy. The legal and ethical constraints governing pharmacy technician and pharmacist responsibilities in practice settings. Prerequisites: Admission to the program; ENGL 0305 or ENGL 0365 AND ENGL 0306 or ENGL 0374, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308.

PHRA 1143 - PHARMACY TECHNICIAN CERTIFICATE REVIEW
1 Credit (1 hr. lec.) A review of major topics covered on the National Pharmacy Technician Certification examination. Prerequisites: PHRA 1361 or permission of program director; ENGL 0305 or ENGL 0365 AND ENGL 0306 or ENGL 0374, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308.

PHRA 1164 - PRACTICUM - PHARMACY TECHNICIAN ASSISTANT
1 Credit (10 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisites: PHRA 1240; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375.
DESCRIPTION OF COURSES

PHRA 1206 - COMPUTERIZED DRUG DELIVERY SYSTEMS I
2 Credits (1 hr. lec., 2 hrs. lab.) Fundamentals of computer information systems and technology within the health care system. Includes specialized skills in the production of pharmaceutical documentation using selected pharmacy software packages and an overview of equipment and devices for drug distribution, preparation, and manufacturing. Also covers mechanical, automatic, and robotic drug delivery systems. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

PHRA 1207 - ETHICS AND TEXAS PHARMACY LAW
2 Credits (2 hrs. lec.) The role of the pharmacy technician and the pharmacist and their associated responsibilities. Includes state law governing the practice of pharmacy, code of ethics, patient confidentiality, and a comparison of legal and ethical aspects, including criminal and civil statutes. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

PHRA 1240 - PHARMACY THIRD PARTY PAYMENT
2 Credits (2 hrs. lec., 1 hr. lab.) Overview of third party payment and its impact on health care. Includes the principles and practices of managed care pharmacy, Medicare and Medicaid, payment plans, reimbursement methods, and formularies. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

PHRA 1304 - PHARMACOTHERAPY AND DISEASE PROCESS
3 Credits (3 hrs. lec.) A study of disease processes and the therapeutic properties of the drugs used in treatment. Prerequisites: PHRA 1361; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

PHRA 1305 - DRUG CLASSIFICATION
3 Credits (3 hrs. lec.) A study of disease processes, pharmaceutical drugs, abbreviations, classifications, dosages, actions in the body, and routes of administration. Prerequisites: Admission to the program; ENGL 0305 or ENGL 0365 AND ENGL 0306 or 0374, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1309 - PHARMACEUTICAL MATHEMATICS I
3 Credits (3 hrs. lec.) Pharmaceutical mathematics including reading, interpreting, and solving calculation problems encountered in the preparation and distribution of drugs. Prerequisites: Admission to the program; ENGL 0305 or ENGL 0365 AND ENGL 0306 or 0374, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1345 - COMPOUNDING STERILE PREPARATIONS AND ASEPTIC TECHNIQUE
3 Credits (2 hrs. lec., 3 hrs. lab.) The process of compounding sterile preparations and aseptic technique within legal and regulatory guidelines specified by USP standards. Prerequisites: PHRA 1361; ENGL 0305 or ENGL 0365 AND ENGL 0306 or 0374, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1347 - PHARMACEUTICAL MATHEMATICS II
3 Credits (3 hrs. lec.) Advanced concepts of Pharmaceutical Mathematics. Prerequisites: PHRA 1361; ENGL 0305 or ENGL 0365 AND ENGL 0306 or 0374, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1361 - CLINICAL - COMMUNITY PHARMACY
3 Credits (10 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: Admission to the program; ENGL 0305 or ENGL 0365 AND ENGL 0306 or 0374, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1413 - COMMUNITY PHARMACY PRACTICE
4 Credits (3 hrs. lec.; 3 hrs. lab.) Introduction to the skills necessary to process, prepare, label, and maintain records of prescriptions in a community pharmacy to include customer service, count and pour techniques, prescription calculations, drug selection and preparation, over-the-counter drugs, inventory management and legal parameters. Prerequisites: Admission to the program; ENGL 0305 or ENGL 0365 AND ENGL 0306 or 0374, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308
PHRA 1449 - INSTITUTIONAL PHARMACY PRACTICE
4 Credits (3 hrs. lec., 3 hrs. lab.) Fundamentals of the diverse roles and practice of pharmacy technicians in an institutional pharmacy setting. In-depth coverage of hospital pharmacy organization, work flow and personnel, medical and pharmaceutical terminology, safety techniques, data entry, packaging and labeling operations, pharmaceutical compounding, inpatient drug distribution systems, continuous quality improvement and inventory control. Prerequisites: PHRA 1361; ENGL 0305 or ENGL 0365 AND ENGL 0306 or 0374, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308.

PHRA 2361 - CLINICAL - INSTITUTIONAL PHARMACY
3 Credits (10 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: PHRA 1361; ENGL 0305 or ENGL 0365 AND ENGL 0306 or 0374, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308.

PHTC 1311 - FUNDAMENTALS OF PHOTOGRAPHY
3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to camera operation and image production, composition, supplemental lighting, and use of exposure meters and filters. This course covers the operation of a digital camera and the proper use of photographic equipment. Corequisite: ARTC 1302.

PHTC 1345 - ILLUSTRATIVE PHOTOGRAPHY I
3 Credits (2 hrs. lec., 4 hrs. lab.) Instruction in the technical aspects involved in commercial photography. Topics include lighting equipment, techniques of production photography, reproduction principles, illustrative techniques, and advertising. Prerequisite: PHTC 1311 or departmental approval. Corequisite: ARTC 1302.

PHTC 2301 - INTERMEDIATE PHOTOGRAPHY
3 Credits (2 hrs. lec., 4 hrs. lab.) Continuation of “Fundamentals of Photography.” Emphasizes social, portrait, studio, fashion, theatrical, publicity, and event photography. Covers some aspects of photojournalism. Prerequisite: PHTC 1311 or departmental approval.

PHTC 2349 - PHOTO DIGITAL IMAGING II
3 Credits (2 hrs. lec., 4 hrs. lab.) Advanced concepts in the use of the computer and software for photographic manipulation and output. Prerequisites: ARTC 1302 and ARTC 1317.

PHYS 1401 - GENERAL PHYSICS I
4 Credits (3 hrs. lec., 3 hrs. lab.) This course includes the study of vector algebra, Newtonian mechanics, mechanical properties of matter, gases and kinetic theory, thermal properties of matter, thermodynamics, vibratory motion and sound. The study also includes an appropriate laboratory program illustrating the principles learned in lecture. This course is not for physical science and engineering majors but can serve as the Physics requirement for the pre-professional medical programs. (4008015303) Prerequisites: PHYS 1401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PHYS 1402 - GENERAL PHYSICS II
4 Credits (3 hrs. lec., 3 hrs. lab.) A continuation of PHYS 1401, including the study of electrostatic forces, fields and potentials, DC and AC circuits, magnetism, electromagnetic waves, the reflection, refraction, diffraction and interference of light and introduction modern physics. Also included is an appropriate laboratory program illustrating the principles learned in lecture. This course is also not for physical science and engineering majors but can serve as the physics requirement for the pre-professional medical programs. (4008015303) Prerequisites: PHYS 1401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PHYS 1403 - STELLAR ASTRONOMY
4 Credits (3 hrs. lec., 3 hrs. lab.) This is an introductory course that will concentrate on the origin, life and fate of the stars and the universe, the various objects in the universe, the exploration of the universe by astronomers and the understanding of the principles that lie behind the functioning of the universe. An appropriate laboratory program may include real-time telescope observations, field trips and experience with more advanced observing techniques. This is a course for non-science majors who need natural science credit or anyone who wants to study the wonders of the universe. (4002015103) Prerequisites: PHYS 1403; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PHYS 1404 - PLANETARY ASTRONOMY
4 Credits (3 hrs. lec., 3 hrs. lab.) This is an introductory course that will concentrate on the origin, life and fate of the solar system, the various bodies in the solar system and solar system mechanics. An appropriate laboratory program may include real-time telescope observations, field trips and experience with more advanced observing techniques. This is a course for non-science majors who need natural science credit or anyone who wants to study the wonders of the solar system. (4000015303) Prerequisites: MATH 1316; ENGL 0309 or ENGL 0310 also meets prerequisite.
observations, field trips and internet research. This is a course for nonscience majors who need natural science credit or anyone who wants to study the wonders of the universe. (4002015203) Prerequisites: MATH 0306 or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**PHYS 1410 - ELEMENTARY PHYSICS**  
4 Credits (3 hrs. lec., 3 hrs. lab.) Conceptual level survey of topics in physics intended for liberal arts and other non-science majors. This course offers the opportunities for the students to explore the basic principles in motion, matter, heat, sound, electricity, light, and modern physics. It includes an appropriate laboratory program. (4008015103) Prerequisites: TECM 1303 or MATH 0310; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**PHYS 2425 - MECHANICS AND HEAT**  
4 Credits (3 hrs. lec., 3 hrs. lab.) This course includes the study of measurement, vector algebra, one- and two- dimensional motion, Newton's laws of motion, kinematics, momentum and collisions, rotational motion and angular momentum, elasticity, oscillations and gravitational interactions, fluids, waves, temperature and the laws of thermodynamics. It also includes an appropriate laboratory program illustrating the principles learned in lecture. This course is primarily for physical science and engineering majors. (4001015403) Prerequisites: MATH 2413; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite.

**PHYS 2426 - ELECTRICITY, MAGNETISM, AND LIGHT**  
4 Credits (3 hrs. lec., 3 hrs. lab.) This course is a continuation of PHYS 2425, including the study of electrostatics, Gauss's law, circuit theory, magnetism and Faraday's law, electromagnetic waves and Maxwell's equations, geometric and physical optics, and introduction to modern physics. It includes an appropriate laboratory program illustrating the principles learned in lecture. This course is primarily for physical science and engineering majors. (4001015703) Prerequisites: PHYS 2425; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite

**POFI 1270 - FIELD REPORTS AND DATA TRANSFER**  
2 Credits (2 hrs. lec.) Essential computer application, writing, and computational skills required by the energy industry for completion of reports. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**POFL 1303 - LEGAL OFFICE PROCEDURES I**  
3 Credits (2 hrs. lec., 3 hrs. lab.) Fundamental administrative duties of the legal administrative assistant. Prerequisite: None

**POFL 1305 - LEGAL TERMINOLOGY**  
3 Credits (2 hrs. lec., 3 hrs. lab.) This course presents an overview of legal terminology and how these terms are used in legal documents. Prerequisite: Keyboarding proficiency

**POFL 1340 - LEGAL OFFICE PROCEDURES II**  
3 Credits (2 hrs. lec., 3 hrs. lab.) Advanced administrative duties of the legal administrative assistant. Prerequisites: POFL 1303; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite

**POFL 2301 - LEGAL DOCUMENT PROCESSING**  
3 Credits (1 hr. lec., 4 hrs. lab.) Develop skills for the production of legal documents. Prerequisite: POFT 1329 or ITS W 1301

**POFL 2305 - INTRODUCTION TO LEGAL RESEARCH**  
3 Credits (2 hrs. lec., 3 hrs. lab.) Research techniques relating to legal issues for legal administrative assistants. Prerequisite: POFL 1305

**POFL 2380 - COOPERATIVE EDUCATION - LEGAL ADMINISTRATIVE ASSISTANT/SECRETARY**  
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: Enrollment in Administrative Services AAS degree or certificate program; completion of 15 credits in degree plan; approval of coordinator

**POFM 1300 - BASIC MEDICAL CODING**  
3 Credits (2 hrs. lec., 3 hrs. lab.) Presentations and application of basic coding rules, principles, guidelines, and conventions utilizing various coding systems. Prerequisite: HITT 1305
POFM 1302 - MEDICAL SOFTWARE APPLICATIONS
3 Credits (2 hrs. lec., 3 hrs. lab.) Medical software applications for the management and operation of health care information systems. Prerequisites: Basic keyboarding and computer skills are suggested. ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

POFM 1317 - MEDICAL ADMINISTRATIVE SUPPORT
3 Credits (2 hrs. lec., 3 hr. lab.) Instruction in medical office procedures including appointment scheduling, medical records creation and maintenance, telephone communications, coding, billing, collecting, and third party reimbursement. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

POFM 1327 - MEDICAL INSURANCE
3 Credits (2 hrs. lec., 3 hrs. lab.) Survey of medical insurance including the life cycle of various claim forms, terminology, patient relations, and legal and ethical issues. Prerequisite: HITT 1305.

POFM 2310 - INTERMEDIATE MEDICAL CODING
3 Credits (2 hrs. lec., 3 hrs. lab.) Assignment and application of various coding guidelines with emphasis on physician billing and regulatory requirements. Includes code selection for Evaluation and Management (E/M) and Medical/Surgical cases. Prerequisites: POFM 1300; ENGL0305 or ENGL0365 or ENGL0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

POFM 2333 - MEDICAL DOCUMENT PRODUCTION
3 Credits (2 hrs. lec., 3 hrs. lab.) Create, format and produce publishable medical documents. Prerequisites: HITT 1305, ITSC 1301, POFM 1317.

POFM 2380 - COOPERATIVE EDUCATION - MEDICAL ADMINISTRATIVE ASSISTANT/SECRETARY
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, the employer, and the student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Requires LSCS liability insurance. Prerequisites: Enrollment in Medical Office Administrator Specialization track AAS degree or certificate program; completion of 15 credits in degree plan; approval of coordinator.

POFM 2381 - COOPERATIVE EDUCATION - MEDICAL ADMINISTRATIVE ASSISTANT/SECRETARY II
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Requires LSCS liability insurance. Prerequisites: Completion of at least 15 credits in degree or certificate plan.

POFM 2386 - INTERNSHIP - MEDICAL ADMINISTRATIVE ASSISTANT/SECRETARY
3 Credits (9 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Requires LSCS liability insurance. Prerequisites: HITT 1305 and completion of at least 15 credits in degree or certificate plan.

POFT 1301 - BUSINESS ENGLISH
3 Credits (2 hrs. lec., 3 hrs. lab.) Introduction to a practical application of basic language usage skills with emphasis on fundamentals of writing and editing for business. Prerequisite: None.

POFT 1309 - ADMINISTRATIVE OFFICE PROCEDURES I
3 Credits (2 hrs. lec., 3 hrs. lab.) Study of current office procedures, duties, and responsibilities applicable to an office environment. Prerequisite: Keyboarding proficiency recommended.

POFT 1325 - BUSINESS MATH USING TECHNOLOGY
3 Credits (2 hrs. lec., 3 hrs. lab.) Business math problem-solving skills using office technology. Emphasis on business problem-solving skills using spreadsheet software and/or electronic calculator/keyboard. Prerequisite: None.

POFT 1329 - BEGINNING KEYBOARDING
3 Credits (1 hr. lec., 4 hrs. lab.) Skill development keyboarding techniques. Emphasis on development of acceptable speed and accuracy levels and formatting basic documents. Prerequisite: None.

POFT 2301 - INTERMEDIATE KEYBOARDING
3 Credits (1 hr. lec., 4 hrs. lab.) A continuation of keyboarding skills emphasizing acceptable speed and accuracy levels and formatting documents. Prerequisites: POFT 1329 or ITSW 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or...
ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

POFT 2312 - BUSINESS CORRESPONDENCE & COMMUNICATION
3 Credits (2 hrs. lec., 3 hrs. lab.) Development of writing and presentation skills to produce effective business communications. Prerequisite: POFT 1301

POFT 2331 - ADMINISTRATIVE SYSTEMS
3 Credits (2 hrs. lec., 3 hrs. lab.) Advanced concepts of project management and office procedures integrating software applications. Students will use Internet research and collaboration to complete projects. Prerequisites: ITSC 1301 or COSC 1301 or ITSW 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite.

POFT 2380 - COOPERATIVE EDUCATION - ADMINISTRATIVE ASSISTANT/SECRETARIAL SCIENCE GENERAL
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: Enrollment in Professional Office Technology AAS degree or certificate program; completion of 15 credits in degree plan; approval of coordinator.

POFT 2381 - COOPERATIVE EDUCATION - ADMINISTRATIVE ASSISTANT/SECRETARIAL SCIENCE GENERAL II
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: POFT 2380; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite.

POFT 2386 - INTERNSHIP - ADMINISTRATIVE ASSISTANT
3 Credits (9 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: POFT 2331.

PORT 1411 - BEGINNING PORTUGUESE I
4 Credits (3 hrs. lec., 2 hrs. lab.) This course includes beginner’s pronunciation, oral practice, conversation, development of listening comprehension, basic principles of grammar, simple exercises in composition, easy reading which includes cultural material. Prerequisite: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite.

PSGT 1115 - INTRO TO POLYSOMNOGRAPHY
1 Credits (3 hrs. lab.) Introduction to the history of sleep medicine and the role of the technologist in current practice settings. Prerequisite: department approval.

PSGT 1260 - POLYSOMNOGRAPHY CLINICAL I
2 Credits (9 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: PSGT 1305, PSGT 1400, PSGT 1310, and PSGT 1340 and department approval.

PSGT 1291 - SPECIAL TOPICS - POLYSOMNOGRAPHY
2 Credits (1 hr. lec., 2 hrs. lab.) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency. Prerequisites: PSGT 1360 and PSGT 2250 and department approval.

PSGT 1305 - NEUROPHYSIOLOGY OF SLEEP
3 Credits (3 hrs. lec.) Review of the human central nervous system as related to sleep. Emphasis on associated wave patterns and collection and utilization of sleep histories. Prerequisite: department approval.

PSGT 1310 - NEUROANATOMY & PHYSIOLOGY
3 Credits (2 hrs. lec., 3 hrs. lab.) Basic neuroanatomy and physiology. Includes neurologic history, neurologic exam, and diagnostic tools applied to the study of various neurologic disorders. Prerequisite: department approval.

PSGT 1340 - SLEEP DISORDERS
3 Credits (2 hrs. lec., 3 hrs. lab.) Disorders that affect sleep. Includes insomnia, circadian rhythm disorders, narcolepsy, sleep disordered breathing, REM behavior, movement and neuromuscular disorders, medical, and psychiatric. Prerequisite: department approval.
DESCRIPTION OF COURSES

PSGT 1360 - POLYSOMNOGRAPHY CLINICAL II
3 Credits. (12 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: PSGT 1260, PSGT 2205 and PSGT 2411 and department approval

PSGT 1400 - POLYSOMNOGRAPHY I
4 Credits (2 hrs. lec., 6 hrs. lab.) Introduction to polysomnographic technology. Includes terminology, instrumentation, patient safety, infection control, recording and monitoring techniques, documentation, professional issues, and patient-technologist interactions. Prerequisite: department approval

PSGT 2205 - SLEEP SCORING & STAGING
2 Credits (1 hr. lec., 2 hrs. lab.) Development of skills for sleep scoring, staging, and record preparation. Prerequisites: PSGT 1305, PSGT 1400, PSGT 1310 and PSGT 1340

PSGT 2250 - INFANT PEDIATRIC POLYSOMNOGRAPHY
2 Credits (1 hr. lec., 4 hrs. lab.) Sleep physiology and the normal sleep patterns of the infant and pediatric population. Includes opportunities to perform a pediatric study. Prerequisites: PSGT 1260, PSGT 2205 and PSGT 2411 and department approval

PSGT 2411 - POLYSOMNOGRAPHY II
4 Credits (2 hrs. lec., 6 hrs. lab.) Current practices in polysomnography. Includes the use of specialized equipment used to record and monitor various physiological parameters involved with sleep testing. Emphasizes sleep disorders, theory of testing and treatment procedures, and analysis of polysomnography data. Prerequisites: PSGT 1305, PSGT 1400, PSGT 1310 and PSGT 1340 and department approval

PSGT 2661 - POLYSOMNOGRAPHY CLINICAL III
6 Credits. (36 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: PSGT 1360 and PSGT 2250 and department approval

PSYC 2301 - GENERAL PSYCHOLOGY
3 Credits (3 hrs. lec.) This course is a survey of the essential subject areas, major theories and approaches to the scientific study of behavior and mental processes. (4201015125) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

PSYC 2306 - HUMAN SEXUALITY
3 Credits (3 hrs. lec.) This course will provide an overview of the broad field of human sexuality. Topics will be covered from various perspectives—biological, sociological, anthropological, etc., but will focus primarily on the psychological perspective. The goal is for each student to learn factual, scientifically-based information that will provoke thought and contribute to his/her own decision-making on sexual issues outside of the classroom. (4201015325) Prerequisites: PSYC 2301 or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

PSYC 2308 - CHILD GROWTH AND DEVELOPMENT
3 Credits (3 hrs. lec.) This course will address psychological development from conception through adolescence with references to physical, cognitive, social and personality changes. Students will examine the interplay of biological factors, human interaction, social structures and cultural forces in development. Students who have taken PSYC 2314 must have instructor approval to enroll in PSYC 2308. (4207015125) Prerequisites: PSYC 2301 or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

PSYC 2314 - LIFESPAN GROWTH AND DEVELOPMENT
3 Credits (3 hrs. lec.) This course explores Lifespan Growth and Development from conception to death with emphasis on factors which influence growth and development. Consideration will be given to social, emotional, cognitive, and physical growth. Students who have taken PSYC 2308 must have instructor approval to enroll in PSYC 2314. (4207015125) Prerequisites: PSYC 2301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

PSYC 2315 - PSYCHOLOGY OF ADJUSTMENT
3 Credits (3 hrs. lec.) An examination of psychological issues common to everyday life. Topics include issues of personal growth and development, relationship factors, stress and behavioral control, and behavioral change. (4201015625) Prerequisites: PSYC 2301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite
PSYC 2316 - PSYCHOLOGY OF PERSONALITY
3 Credits (3 hrs. lec.) An examination of the major personality theories and ideas within the field of psychology. Includes, but not limited to, psychoanalytic, Neo-Freudian, humanistic and behavioral ideas and methods of personality measurement. (4201015725) Prerequisites: PSYC 2301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PSYC 2317 - BASIC STATISTICS
3 Credits (3 hrs. lec.) Introduction to basic statistical concepts including measures of central tendency, variability, and statistical inference. Some emphasis is placed on test, correlation, and analysis of variance. (4201015225) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PSYC 2319 - SOCIAL PSYCHOLOGY
3 Credits (3 hrs. lec.) The course focuses on individual behavior as affected by cultural and social stimuli. Social behavior, interpersonal influence, group membership, and the relations between persons and social systems are emphasized. (4227075125) Prerequisites: SOCI 1301 or PSYC 2301 or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PTHA 1225 - COMMUNICATION IN HEALTH CARE
2 Credits (2 hrs. lec.) Communication theories and principles for optimal delivery of health care. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite. Corequisites: PTHA 1305 and 1413.

PTHA 1260 - CLINICAL PHYSICAL THERAPIST ASSISTANT
2 Credits (6 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: PTHA 1225, 1305 and 1413; Corequisites: PTHA 1431, 2201 and 2435.

PTHA 1305 - BASIC PATIENT CARE SKILLS
3 Credits (2 hrs. lec., 3 hrs. lab.) The application of basic patient handling, functional skills, communication, and selected data collection techniques. Requires LSCS liability insurance. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite. Corequisites: PTHA 1225 and 1413.

PTHA 1321 - PATHOPHYSIOLOGY FOR THE PTA
3 Credits (3 hrs. lec.) Study of the pathophysiology of diseases/conditions encountered in physical therapy. Prerequisites: PTHA 1260, 1431, 2201, and 2435; Corequisite: PTHA 2409.

PTHA 1413 - FUNCTIONAL ANATOMY
4 Credits (3 hrs. lec., 4 hrs. lab.) The relationship of the musculoskeletal and neuromuscular systems to normal and abnormal movement. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite. Corequisites: PTHA 1225 and 1305.

PTHA 1431 - PHYSICAL AGENTS
4 Credits (3 hrs. lec., 4 hrs. lab.) Biophysical principles, physiological effects, efficacy, and application of physical agents. Prerequisites: PTHA 1225, 1305, and 1413; Corequisites: PTHA 1260, 2201 and 2435.

PTHA 2201 - ESSENTIALS OF DATA COLLECTION
2 Credits (1 hr. lec., 3 hrs. lab.) Data collection techniques used to assist in patient/client management. Prerequisites: PTHA 1225, 1305, and 1413; Corequisites: PTHA 1260, 1431 and 2435.

PTHA 2217 - ISSUES IN HEALTH CARE
2 Credits (2 hrs. lec.) Organizational patterns, administrative principles, legal and ethical issues in physical therapy, and preparation for licensure and employment. Exploration of the job placement skills in physical therapy. Additional emphasis will be placed on the transition from student to practitioner. Prerequisites: PTHA 1321 and 2409.

PTHA 2250 - CURRENT CONCEPTS IN PHYSICAL THERAPY
2 Credits (2 hrs. lec.) Current concepts, skills, and
DESCRIPTION OF COURSES

knowledge in the provision of physical therapy services. Includes enhancement of professional development. Prerequisites: PTHA 1321 and PTHA 2409 with a grade of “C” or better in each course.

PTHA 2409 - THERAPEUTIC EXERCISE
4 Credits (3 hrs. lec., 4 hrs. lab.) Concepts, principles, and application of techniques related to therapeutic exercise and functional training. Prerequisites: PTHA 1260, 1431, 2201 and 2435; Corequisite: PTHA 1321.

PTHA 2435 - REHABILITATION TECHNIQUES
4 Credits (3 hrs. lec., 3 hrs. lab.) Comprehensive rehabilitation of selected diseases and disorders. Prerequisites: PTHA 1225, 1305 and 1413; Corequisites: PTHA 1260, 1431, and 2201.

PTHA 2461 - CLINICAL - PHYSICAL THERAPY ASSISTANT
4 Credits (12 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisite: None; Corequisites: PTHA 2250, PTHA 2462.

PTHA 2462 - CLINICAL - PHYSICAL THERAPY ASSISTANT
4 Credits (12 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisite: None; Corequisites: PTHA 2250, PTHA 2461.

PTHA 2563 - CLINICAL - PHYSICAL THERAPY ASSISTANT
5 Credits (15 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: PTHA 2461 and 2462; Corequisite: PTHA 2217.

PTRT 1191 - SPECIAL TOPICS IN PETROLEUM TECHNOLOGY/TECHNICIAN
1 Credit (1 hr. lec.) This special topics course will assist the student in obtaining and filing the proper paperwork to be eligible for hiring by most public and private organizations. Prerequisite: None.

PTRT 1301 - INTRODUCTION TO PETROLEUM INDUSTRY
3 Credits (3 hrs. lec.) An introduction to the various aspects of petroleum industry including equipment, systems, instrumentation, operations, and the various scientific principles. Addresses a variety of petroleum technologies: exploration, drilling, production, transportation, marketing, and chemical processing industries. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308.

PTRT 1303 - DRILLING
3 Credits (3 hrs. lec.) A study of practices and procedures for drilling operations. Rig equipment, casing design, fishing, and proper procedures to successfully drill a well are discussed. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PTRT 1312 - PETROLEUM REGULATIONS
3 Credits (3 hrs. lec.) Regulatory requirements and structures associated with the petroleum industry. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PTRT 1370 - PETROLEUM GEOLOGY
3 Credits (3 hrs. lec., 1 hr. lab.) An introduction to the principles and practical application of geological and geophysical concepts in the petroleum industry. The course will focus on the use of facies models, rock shapes and structures porosity and permeability, geophysical logs, drillstem tests, drilling, and production strategies in petroleum exploration. Prerequisites: ENGL 0309 and MATH 0308.

PTRT 1371 - PETROLEUM DATA MANAGEMENT I - EXPLORATION
3 Credits (3 hrs. lec., 1 hr. lab.) Overview of computer applications in exploration; covers the history, fundamentals, terminology and software for exploration; introduction to the principles of geology, geophysics and petro-physics. Prerequisites: ENGL 0309 and MATH 0308.

PTRT 1372 - PETROLEUM DATA MANAGEMENT II - DRILLING AND PRODUCTION
3 Credits (2 hrs. lec., 2 hrs. lab.) Overview of computer applications in drilling and production. Covers the history, fundamentals, terminology and software for drilling and production. Introduction to the principles of drilling, production and reservoir. Prerequisites: ENGL 0309 and MATH 0308 and PTRT 1371.
PTRT 1373 - EXPLORATION AND PRODUCTION I
3 Credits (3 hrs. lec., 1 hr. lab.) Overview of various aspects of deepwater operations deepwater exploration, drilling and completing wells, development of production systems. Prerequisites: ENGL 0309 and MATH 0308 and PTRT 1301

PTRT 1374 - EXPLORATION AND PRODUCTION II
3 Credits (3 hrs. lec., 1 hr. lab.) Continue with exploration and production principles including drilling rigs, giant oil and gas fields, beam pumpers, and geological classifications. Prerequisites: ENGL 0309 and MATH 0308 and PTRT 1373

PTRT 1391 - PETROLEUM TROUBLESHOOTING
3 Credits (2 hrs. lec., 4 hrs. lab.) Application of petroleum related systems. Emphasizes related to equipment and devices used in the petroleum production field to solve and troubleshoot problems in the field. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

PTRT 1424 - PETROLEUM INSTRUMENTATION
4 Credits (3 hrs. lec., 3 hrs. lab.) Study of instruments, instrument systems, terminology, process variables, and control coops as used in a petroleum environment. Prerequisites: CETT 1402 or CETT 1409

PTRT 2331 - WELL COMPLETIONS
3 Credits (3 hrs. lec.) Drilling and wellbore analysis data to develop a well completion plan. A study of practices and procedures that are involved in drilling operations and evaluate the effects of production operations choosing the tools and procedures for completing a drilled well-bore. Topics on rig equipment, casing design, fishing, and proper procedures to successfully drill a well are implemented; instruction in volume calculations, hydrostatic pressures, formations pressures, and analyzing problems in down-hole drilling operations. Prerequisite: PTRT 1301

PTRT 2370 - PETROLEUM DATA MANAGEMENT
3 Credits (3 hrs. lec., 1 hr. lab.) Overview of computer applications in surface facilities and automation. Covers the history, fundamentals, terminology and software for surface facilities and automation. Prerequisites: MATH 0308 and ENGL 0309 and PTRT 1372 or Instructor Consent

PTRT 2371 - INTERNSHIP - PETROLEUM TECHNOLOGY
3 Credits (1 hr. lec., 17 hr. external) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: departmental approval AND ENGL 0309, MATH 0308

PTRT 2380 - COOPERATIVE EDUCATION - PETROLEUM TECHNOLOGY/TECHNICIAN
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisite: Instructor approval

QCTC 1303 - QUALITY CONTROL
3 Credits (3 hrs. lec., 1 hr. lab.) Information on quality control principles and applications. Designed to introduce the student to the quality control profession. The student will be introduced to the use of statistical analysis of data to establish control systems for use in product manufacturing. Prerequisites: MATH 1314 and MCHN 1319; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

QCTC 1371 - PRESSURE VESSELS CODES
3 Credits (2 hrs. lec., 2 hrs. lab.) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. A course in the requirements of inspection of pressure vessels including ASME Code Structure, function and requirements, Nondestructive Examination, Maintenance Inspection, Repairs and Alterations and Pressure Vessel Inspection Code. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

QCTC 1446 - TESTING AND INSPECTION SYSTEMS
4 Credits (3 hrs. lec., 2 hrs. lab.) A study of testing and inspection systems including pertinent specifications, inspection tools, gauges, instruments, and mechanisms, used in illustrating the need for maintaining quality to established standards. Prerequisite: None

QCTC 2331 - STANDARDS
3 Credits (2 hrs. lec., 2 hrs. lab.) Philosophy and theory of appropriate standards, organizations, and systems integration relating to the standards criteria in society. Prerequisite: None
DESCRIPTION OF COURSES

RADR 1260 - CLINICAL *
2 Credits (12 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: RADR 1409, 1411, and 1313

RADR 1313 - PRINCIPLES OF RADIOGRAPHIC IMAGING I
3 Credits (3 hrs. lec., 1 hr. lab.) An introduction to radiographic image qualities and the effects of exposure variables upon these qualities. Prerequisite: Admission to the program

RADR 1360 - CLINICAL *
3 Credits (15 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisite: RADR 1260

RADR 1409 - INTRODUCTION TO RADIOGRAPHY AND PATIENT CARE
4 Credits (3 hrs. lec., 2 hrs. lab.) An overview of the historical development of radiography, basic radiation protection, an introduction to medical terminology, ethical and legal issues for health care professionals, and an orientation to the profession and to the health care system. Patient assessment, infection control procedures, emergency and safety procedures, communication and patient interaction skills, and basic pharmacology are also included. Prerequisite: Admission to the program

RADR 1411 - BASIC RADIOGRAPHIC PROCEDURES
4 Credits (3 hrs. lec., 2 hrs. lab.) An introduction to radiographic positioning terminology, the proper manipulation of equipment, positioning and alignment of the anatomic structure and equipment, and evaluation of images for proper demonstration of basic anatomy. Prerequisite: Admission to the program

RADR 1460 - CLINICAL *
4 Credits (24 hrs. ext.) A health related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisite: RADR 1360

RADR 2217 - RADIOGRAPHIC PATHOLOGY
2 Credits (2 hrs. lec.) A presentation of disease processes and their appearance on radiographic images. Prerequisite: RADR 2309

RADR 2271 - COMPUTERS IN THE IMAGING SCIENCES
2 Credits (2 hrs. lec.) Overview of computer information systems. Introduces hardware, software, and procedures in the imaging sciences. This course introduces students to word processing, presentation media, and software applications applicable to medical imaging. Prerequisite: RADR 1313

RADR 2305 - PRINCIPLES OF RADIOGRAPHIC IMAGING II
3 Credits (3 hrs. lec., 1 hr. lab.) Continuation of Radiographic image quality and the effects of exposure variables, and the synthesis of all variables in image production. Prerequisite: RADR 1313

RADR 2309 - RADIOGRAPHIC IMAGING EQUIPMENT
3 Credits (3 hrs. lec., 1 hr. lab.) A study of the equipment and physics of x-ray production. Includes basic x-ray circuits. Also examines the relationship of conventional and digital equipment components to the imaging process. Prerequisite: RADR 2305

RADR 2313 - RADIATION BIOLOGY AND PROTECTION
3 Credits (3 hrs. lec.) A study of the effects of radiation exposure on biological systems. Includes typical medical exposure levels, methods for measuring and monitoring radiation, and methods for protecting personnel and patients from excessive exposure. Prerequisite: RADR 2331; BIOL 2401 and BIOL 2402 or BIOL 2404

RADR 2331 - ADVANCED RADIOGRAPHIC PROCEDURES
3 Credits (3 hrs. lec., 1 hr. lab.) Continuation of positioning; alignment of the anatomic structure and equipment, evaluation of images for proper demonstration of anatomy and related pathology. Prerequisite: RADR 2401

RADR 2335 - RADIOLOGIC TECHNOLOGY SEMINAR
3 Credits (3 hrs. lec.) A capstone course focusing on the synthesis of professional knowledge, skills, and attitudes in preparation for professional employment and lifelong learning. Prerequisite: RADR 2360

*LSC-CyFair and LSC-Montgomery offer these courses in different semesters so the weekly hours may differ (16 hrs/wk in the fall and 12 hrs/wk in the summer.)
RADR 2340 - SECTIONAL ANATOMY FOR MEDICAL IMAGING
3 Credits (3 hrs. lec.) Anatomic relationships present under various sectional orientations. Prerequisite: Admission to medical radiologic technology program.

RADR 2360 - CLINICAL *
3 Credits (18 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisite: RADR 1460.

RADR 2361 - CLINICAL *
3 Credits (18 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisite: RADR 2360.

RADR 2401 - INTERMEDIATE RADIOGRAPHIC PROCEDURES
4 Credits (3 hrs. lec., 2 hrs. lab.) A continuation of the study of the proper manipulation of radiographic equipment, positioning and alignment of the anatomic structure and equipment, and evaluation of images for proper demonstration of anatomy. Prerequisite: RADR 1411.

RBTC 1305 - ROBOTIC FUNDAMENTALS
3 Credits (2 hrs. lec., 3 hrs. lab.) An introduction to flexible automation. Topics include installation, repair, maintenance, and development of flexible robotic manufacturing systems. Prerequisites: RBTC 1401, CETT 1402 or CETT 1409.

RBTC 1401 - PROGRAMMABLE CONTROLLERS
4 Credits (3 hrs. lec., 3 hrs. lab.) A study in programmable controllers. Topics include processor units, numbering systems, memory organization, relay type devices, times, counters, data manipulators and programming and troubleshooting skills on a cross section of industrial PLCs. Prerequisite: CETT 1402 or CETT 1409.

RELI 1311 - OLD TESTAMENT SURVEY
3 Credits (3 hrs. lec.) This course presents the historical, cultural, and literary approaches to understanding the religious themes of the Hebrew Bible. This course is a non-funded course and may not transfer. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

RELI 1312 - NEW TESTAMENT SURVEY
3 Credits (3 hrs. lec.) This course presents the historical, cultural, and literary approaches to understanding the religious themes of the New Testament. This course is a non-funded course and may not transfer. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

RNSG 1105 - NURSING SKILLS I
1 Credit (3 hrs. lab.) Study of the concepts and principles necessary to perform basic nursing skills for the adult patient; and demonstrate competence in the performance of nursing procedures. Content includes knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Prerequisites: Admission to the Nursing Integrated or Nursing Block Program; ENGL 1301, PSYC 2301 and BIOL 2401.

RNSG 1115 - HEALTH ASSESSMENT
1 Credit (3 hrs. lab.) Development of skills and techniques required for a comprehensive nursing health assessment within a legal/ethical framework. This course lends itself to a blocked approach. Prerequisites: ENGL 1301, BIOL 2401, PSYC 2301; Corequisites: BIOL 2402, RNSG 1144, 1146, 1209 and 1105.

RNSG 1119 - INTEGRATED NURSING SKILLS I
1 Credit (3 hrs. lab.) Study of the concepts and principles necessary to perform basic nursing skills for care of diverse patients across the life span; demonstrate competence in the performance of nursing procedures. Content includes knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to an integrated approach. Prerequisites: RNSG 1105, PSYC 2301, BIOL 2401, ENGL 1301 and admission to the ADN program; Corequisites: RNSG 1301, 1361 and 1523 and BIOL 2402.

RNSG 1144 - NURSING SKILLS II
1 Credit (3 hrs. lab.) Study of the concepts and principles necessary to perform intermediate or advanced nursing skills for the adult patient; and demonstrate competence in the performance of nursing procedures. Content includes knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Prerequisites: BIOL 2401, PSYC 2301, ENGL 1301; Corequisites: RNSG 1105, 1209, 1115, 1146.

*LSC-CyFair and LSC-Montgomery offer these courses in different semesters so the weekly hours may differ (16 hrs/wk in the fall and 12 hrs/wk in the summer.)*
DESCRIPTION OF COURSES

RNSG 1229 - INTEGRATED NURSING SKILLS II
2 Credit (4 hrs. lab.) Study of the concepts and principles necessary to perform intermediate or advanced nursing skills for care of diverse patients across the life span. Content includes knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to an integrated approach. Prerequisites: ENGL 1301, RNSG 1119, RNSG 1301, RNSG 1523, BIOL 2402 Corequisites: RNSG 1362 and RNSG 2504

RNSG 1261 - CLINICAL - COMMON CONCEPTS OF ADULT HEALTH
2 Credits (6 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: RNSG 1144 and BIOL 2402; Corequisites: RNSG 1341 and BIOL 2420

RNSG 1301 - PHARMACOLOGY
3 Credits (3 hrs. lec.) Introduction to the science of pharmacology with emphasis on the actions, interactions, adverse effects, and nursing implications of drug classifications. Content includes the roles and responsibilities of the nurse in safe administration of medications within a legal/ethical framework. This course lends itself to either a blocked or integrated approach. Prerequisite: BIOL 2401 OR current licensure as RN, LVN, or Paramedic; Corequisite: BIOL 2402

RNSG 1309 - INTRODUCTION TO NURSING
3 Credits (3 hrs. lec.) Overview of nursing and the role of the professional nurse as provider in patient-centered care, patient safety advocate, member of health care team, and member of the profession. Content includes knowledge, judgment, skills and professional values with a legal/ethical framework. This course lends itself to a blocked approach. Prerequisites: BIOL 2401, PSYC 2301, ENGL 1301; Corequisites: RNSG 1105, 1115, 1144

RNSG 1341 - COMMON CONCEPTS OF ADULT HEALTH
3 Credits (3 hrs. lec.) Basic integration of the role of the professional nurse as a provider of patient-centered care, patient safety advocate, member of health care team, and member of the profession. Study of the common concepts of caring for adult patients and families with medical-surgical health care needs related to body systems, emphasizing knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Prerequisites: RNSG 1144 and BIOL 2402; Corequisites: RNSG 1261 and BIOL 2420

RNSG 1343 - COMPLEX CONCEPTS OF ADULT HEALTH
3 Credits (3 hrs. lec.) Integration of previous knowledge and skills related to common adult health needs into the continued development of the professional nurse as a provider of patient-centered care, patient safety advocate, member of health care team, and member of a profession in the care of adult patients and families with complex medical-surgical health care needs associated with body systems. Emphasis on complex knowledge, judgments, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Prerequisites: RNSG 1341 and RNSG 1261; Corequisites: RNSG 1342 and BIOL 2420

RNSG 1360 - CLINICAL- NURSING FOR ARTICULATING STUDENTS
3 Credits (9 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: admission to nursing RN transition program and PSYC 2301, PSYC 2314, BIOL 2401, BIOL 2420, BIOL 2420, ENGL 1301, RNSG 1301 Corequisites: RNSG 1517

RNSG 1361 - CLINICAL-NURSING I
3 Credits (9 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: BIOL 2401, ENGL 1301, PSYC 2301 and RNSG 1105 and admission to the ADN Program; Corequisites: RNSG 1119 and 1523

RNSG 1362 - CLINICAL - NURSING II
3 Credits (9 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: RNSG 1119, 1361, 1523, 1301; BIOL 2402; Corequisites: RNSG 1229 and 2504

RNSG 1517 - CONCEPTS OF PROFESSIONAL NURSING PRACTICE FOR ARTICULATING STUDENTS
5 Credits (5 hrs. lec.) Provides the articulating student the opportunity to examine the role of the professional nurse; application of a systematic problem solving process and critical thinking skills which includes a focus on the adult population; and competency in knowledge, judgment, skill, and professional values within a legal/ethical framework. This course lends itself to either a blocked or integrated approach. Prerequisites: Admission to nursing RN transition
RNSG 1523 - INTRO TO PROFESSIONAL NURSING FOR INTEGRATED PROGRAMS
5 Credits (4 hrs. lec., 2 hrs. lab.) Introduction to the profession of nursing including the roles of the professional nurse as provider of patient-centered care, patient safety advocate, member of health care team, and member of profession with emphasis on health promotion and primary disease prevention across the life span; essential components of the nursing health assessment; identification of deviations from expected health patterns; the application of a systematic, problem-solving process to provide basic nursing care to diverse patients across the life span; and applicable competencies in knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to an integrated approach. Prerequisites: Admission to ADN program, BIOL 2401, PSYC 2301, ENGL 1301 and RNSG 1105; Corequisites: RNSG 1119 and 1361

RNSG 2162 - CLINICAL: MENTAL HEALTH NURSING
1 Credit (3 ext. hrs.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: RNSG 1362; RNSG 1343, PSYC 2314, SOCI 1301; Corequisites: RNSG 2213 and SPCH 1318

RNSG 2201 - CARE OF CHILDREN AND FAMILIES
2 Credits (2 hrs. lec.) Study of concepts related to the provision of nursing care for children and their families, emphasizing judgment and professional values within a legal/ethical framework. Prerequisites: PSYC 2314; RNSG 1362; Corequisites: RNSG 2260, 2261

RNSG 2207 - ADAPTATION TO ROLE OF PROFESSIONAL NURSE
2 Credits (2 hrs. lec.) Selected concepts related to the role of the professional nurse as a provider of patient-centered care, patient safety advocate, member of health care team, and member of the profession. Review of trends and issues impacting nursing and health care today and in the future. Content includes knowledge, judgment, skills, and professional values within a legal/ethical framework. Prerequisites: RNSG 1229, RNSG 2361, and RNSG 2514

RNSG 2208 - MATERNAL/NEWBORN NURSING AND WOMEN’S HEALTH
2 Credits (2 hrs. lec.) Concepts related to nursing care for childbearing families and women's health issues. Content includes knowledge, judgment,
DESCRIPTION OF COURSES

Knowledge, judgment, skill, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Prerequisites: RNSG 2201, RNSG 2208, RNSG 2213, RNSG 2162, RNSG 2261, RNSG 2260

RNSG 2361 - CLINICAL - NURSING III
3 Credits (9 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: RNSG 1229, 2260, 1362, 1417, 2504; BIOL 2420; PSYC 2314; SOCI 1301; Corequisites: RNSG 2361

RNSG 2362 - CLINICAL - NURSING IV
3 Credits (9 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: RNSG 1229, 2361, 2514; Corequisites: RNSG 1207, 2362

RNSG 2504 - INTEGRATED CARE OF THE PATIENT WITH COMMON HEALTH CARE NEEDS
5 Credits (4 hrs. lec., 2 hrs. lab.) Application of a systematic problem-solving process, critical thinking skills and concepts to provide nursing care to diverse patients and families across the life span with common health care needs including, but not limited to, common childhood/adolescent diseases, uncomplicated perinatal care, mental health concepts, perioperative care, frequently occurring adult health problems and health issues related to aging. Emphasis on secondary disease prevention and collaboration with members of the interdisciplinary health care team. Content includes the roles of the professional nurse and applicable competencies in knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to an integrated approach. Prerequisites: RNSG 1229, 1260, 1362, 1417, 2504; BIOL 2420; PSYC 2314; SOCI 1301; Corequisites: RNSG 2514

RNSG 2535 - INTEGRATED PATIENT CARE MANAGEMENT
5 Credits (4 hrs. lec., 2 hrs. lab.) Application of independent nursing interventions to care for diverse patients and families throughout the life span whose health care needs may be difficult to predict. Emphasis on collaborative clinical reasoning, nursing leadership skills, and patient management. Content includes the significance of professional development, trends in nursing and health care, and applicable knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to an integrated approach. Prerequisites: RNSG 1229, 2361, 2514; Corequisites: RNSG 2535

RNSG 2560 - CLINICAL - REGISTERED NURSING
5 Credits (15 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: RNSG 2362, 2260, 2261; Corequisites: RNSG 2360

RSPT 1160 - CLINICAL RESPIRATORY CARE THERAPY/ThERAPlIST
1 Credit (6 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

RSPT 1166 - PRACTICUM RESPIRATORY CARE THERAPY/ThERAPlIST
1 Credit (7 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Pre-
DESCRIPTION OF COURSES

RSPT 1167 - PRACTICUM RESPIRATORY CARE THERAPY/ThERAPIST
1 Credit (7 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisite: None; Corequisite: RSPT 1166

RSPT 1201 - INTRODUCTION TO RESPIRATORY CARE
2 Credits (1 hr. lec., 4 hrs. lab.) An introduction to the field of respiratory care. Topics include the history of respiratory care, hospital organization, medical malpractice, ethics, vital signs, body mechanics, basic cardiopulmonary assessment, infection control, and cardiopulmonary resuscitation (CPR). This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisite: None; Corequisite: RSPT 1166

RSPT 1207 - CARDIOPULMONARY ANATOMY AND PHYSIOLOGY
2 Credits (1 hr. lec., 4 hrs. lab.) Anatomy and physiology of the cardiovascular and pulmonary systems. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

RSPT 1213 - BASIC RESPIRATORY CARE PHARMACOLOGY
2 Credits (1 hr. lec., 2 hrs. lab.) A study of basic pharmacological principles/practices of respiratory care drugs. Emphasis on classification, routes of administration, dosages/calculations, and interaction of the autonomic nervous system and physiological interaction. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

RSPT 1241 - RESPIRATORY HOME CARE/REHABILITATION
2 Credits (2 hrs. lec.) A study of respiratory home care/rehabilitation equipment, procedures, and patient education. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

RSPT 1310 - RESPIRATORY CARE PROCEDURES I
3 Credits (2 hrs. lec., 4 hrs. lab.) Essential knowledge of the equipment and techniques used in the treatment of cardiopulmonary disease. Prerequisite: None

RSPT 1325 - RESPIRATORY CARE SCIENCES
3 Credits (2 hrs. lec., 4 hrs. lab.) Physics, mathematics, and chemistry as related to respiratory care. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

RSPT 1429 - RESPIRATORY CARE FUNDAMENTALS II
4 Credits (2 hrs. lec., 6 hrs. lab.) Introduction to respiratory care fundamentals. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: RSPT 1166

RSPT 1431 - RESPIRATORY CARE FUNDAMENTALS II
4 Credits (2 hrs. lec., 6 hrs. lab.) Continued development of knowledge and skills for respiratory care. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: RSPT 1166

RSPT 2139 - ADVANCED CARDIAC LIFE SUPPORT
1 Credit (3 hrs. lab.) Advanced Cardiac Life Support (ACLS) with an emphasis on airway management. Designed to develop skills for resuscitation of the adult. Includes strategies for managing and stabilizing the cardiopulmonary arrested patient. May include

requisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: RSPT 1166

RSPT 1201, 1325, and 1429
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certification. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

RSPT 2166 - PRACTICUM RESPIRATORY CARE THERAPY/ThERAPIST
1 Credit (10 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

RSPT 2210 - CARDIOPULMONARY DISEASE
2 Credits (1 hr. lec., 4 hrs. lab.) Etiology, pathogenesis, pathology, diagnosis, history, prognosis, manifestations, treatment, and detection of cardiopulmonary diseases. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None; Corequisite: RSPT 1167

RSPT 2230 - EXAMINATION PREPARATION
2 Credits (1 hr. lec., 4 hrs. lab.) Comprehensive review to optimize respiratory care credentialing exam success. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

RSPT 2243 - RESEARCH IN RESPIRATORY CARE
2 Credits (1 hr. lec., 4 hrs. lab.) Analysis of current respiratory care research material and determination of scientific validity. May include active clinical research. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

RSPT 2260 - CLINICAL RESPIRATORY CARE THERAPY/ThERAPIST
2 Credit (9 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

RSPT 2325 - CARDIOPULMONARY DIAGNOSTICS
3 Credits (2 hrs. lec., 4 hrs. lab.) A study of physical, radiological, hemodynamic, laboratory, nutritional, and cardiopulmonary diagnostic assessments. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

RSPT 2353 - NEONATAL/PEDIATRIC CARDIOPULMONARY CARE
3 Credits (1 hr. lec., 5 hrs. lab.) A study of neonatal/pediatric cardiopulmonary care. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

RSPT 2366 - PRACTICUM RESPIRATORY CARE THERAPY/ThERAPIST
3 Credits (24 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

RTVB 1321 - TV FIELD PRODUCTION
3 Credits (2 hrs. lec., 4 hrs. lab.) Pre-production, production, and post-production process involved in field television production. Topics include field camera setup and operation, field audio, television directing, and in-camera or basic continuity editing with an emphasis on underlying principles of video technology. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301)
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RTVB 1325 - TV STUDIO PRODUCTION
3 Credits (2 hrs. lec., 4 hrs. lab.) Basic television production planning and techniques including video, audio and lighting equipment commonly used in a studio. Prerequisite: None

RTVB 1429 - SCRIPTWRITING
4 Credits (4 hrs. lec.) Writing scripts for film and electronic media. Emphasizes format and style for commercials, public service announcements, promos, news, and documentaries. Prerequisite: None

RTVB 2164 - PRACTICUM
1 Credit (8 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisites: AVTS 1371, RTVB 1321, RTVB 2330

RTVB 2330 - FILM AND VIDEO EDITING
3 Credits (2 hrs. lec., 2 hrs. lab.) Film and broadcast editing for the preparation and completion of shorts, trailers, documentaries, and features. Prerequisite: None

RTVB 2337 - TV PRODUCTION WORKSHOP I
3 Credits (2 hrs. lec., 4 hrs. lab.) Design and production of video content for location or studio shoots adhering to deadline and quality control restrictions. Prerequisite: Meets final semester requirement for Video and Post Production certificate or Visual Communication AAS degree-track C (Video and Post-Production)

RTVB 2381 - COOPERATIVE EDUCATION - RADIO/ TELEVISION BROADCASTING
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisite: Meets final semester requirements for Video and Post Production certificate, Motion Graphics certificate, or Visual Communication AAS degree - track C (video and Post-Production)

SCWK 1321 - ORIENTATION TO SOCIAL SERVICES
3 Credits (3 hrs. lec.) Introduction to the basic concepts, information, and practices within the field of social services. Topics include the historical development of social services; populations served by social service workers; and review of current treatment and/or services. Prerequisites: ENGL 0304 or ENGL 0364 AND

SCWK 2186 - INTERNSHIP - SOCIAL WORK
1 Credit (6 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Requires LSCS liability insurance. Prerequisites: DAAC 1317, DAAC 2354 and SCWK 1321; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing

SCWK 2286 - INTERNSHIP - SOCIAL WORK
2 Credits (12 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Requires LSCS liability insurance. Prerequisites: DAAC 1317, DAAC 2354 and SCWK 1321; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing

SCWK 2331 - ABNORMAL BEHAVIOR
3 Credits (3 hrs. lec.) An exploration and identification of maladaptive behavior including characteristics, classification, diagnosis, and treatment modalities. Topics include factors associated with defining and identifying abnormal behavior. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing

SCWK 2386 - INTERNSHIP - SOCIAL WORK
3 Credits (18 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Requires LSCS liability insurance. Prerequisites: DAAC 1317, DAAC 2354 and SCWK 1321; ENGL 0304 or ENGL 0364 AND ENGL 0306 OR ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing

SGNL 1401 - BEGINNING AMERICAN SIGN LANGUAGE I
4 Credits (3 hrs. lec., 2 hrs. lab.) Manual and receptive proficiency on a basic level. Signed conversation, use of CD-ROM for visual training, basic principles of grammar, simple exercises, easy reading which includes cultural material. (1616035113) Prerequisite: None

SGNL 1402 - BEGINNING AMERICAN SIGN LANGUAGE II
4 Credits (3 hrs. lec., 2 hrs. lab.) Continuation of SGNL 1401 with increased emphasis on comprehen-
DESCRIPTION OF COURSES

sion, signing and receptive skills. Intensive drills to increase vocabulary and knowledge of ASL structure. (1616035113) Prerequisite: SGNL 1401

SGNL 2301 - INTERMEDIATE AMERICAN SIGN LANGUAGE I
3 Credits (2 hrs. lec., 3 hrs. lab.) Review and application of conversational skills in American Sign Language. Introduction to American Sign Language literature and folklore. (1616035213) Prerequisite: SGNL 1402

SGNL 2302 - INTERMEDIATE AMERICAN SIGN LANGUAGE II
3 Credits (2 hrs. lec., 3 hrs. lab.) Continuation of SGNL 2301 with increased emphasis on conversational skills. (1616035213) Prerequisite: SGNL 2301

SLNG 1211 - FINGERSPELLING
2 Credits (2 hrs. lec., 2 hrs. lab.) Develops expressive and receptive fingerspelling skills. Receptive skills focus on whole word and phrase recognition as well as reading fingerspelling in context. Expressive skills focus on the development of speed, clarity, and fluency. Additionally, this course develops expressive skills in signing numbers and skills in receptively interpreting numbers in a variety of areas including sports, mathematics, weights, and measures. Prerequisite: None

SLNG 1215 - VISUAL/GESTURAL COMMUNICATION
2 Credits (2 hrs. lec.) A course in the development of skills in nonverbal communications. Emphasizes the use and understanding of facial expression, gestures, pantomime, and body language. Creation and/or performance of stories using these elements. Prerequisite: None

SLNG 1317 - INTRODUCTION TO THE DEAF COMMUNITY
3 Credits (3 hrs. lec.) An overview of the physical, educational, social, and cultural implications of deafness and hearing loss within the context of the individual’s personal life, family, and community in today’s multicultural world. Emphasis on current educational and vocational programs, legislation, technology, and other issues. Prerequisite: None

SLNG 1321 - INTRODUCTION TO THE INTERPRETING PROFESSION
3 Credits (3 hrs. lec.) An overview of the field of sign language interpretation. Provides a historical framework for the principles, ethics, roles, responsibilities, and standard practices of the interpreting profession. This course will also include identification of professional interpreting organizations and journal/publications that provide information on sign systems and other interpreting methods. Prerequisites: SGNL 1401 and SLNG 1317; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SLNG 1347 - DEAF CULTURE
3 Credits (3 hrs. lec.) Provides a historical and contemporary perspective of American deaf culture using a sociocultural model. Includes cultural identity, values, group norms, communication, language, and significant contributions made by deaf people to the world. This course will also identify organizations of the deaf and will explore implications of deafness on family dynamics. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SLNG 2315 - INTERPRETING IN EDUCATIONAL SETTINGS
3 Credits (2 hrs. lec., 4 hrs. lab.) Increases awareness of current techniques, issues, and ethics in mainstreaming and bilingual/bicultural education practices. Includes a survey of technical signs and signed English systems currently in use. This course will also include the use of computer laboratories, multimedia equipment and video equipment to assess and enhance sign-to-voice and voice-to-sign skill development. Prerequisites: SLNG 2401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SLNG 2401 - INTERPRETING I
4 Credits (3 hrs. lec., 3 hrs. lab.) An overview of the interpreting process and current models. Introduces the skills necessary to achieve message equivalency in interpreting and transliterating. This course will also include the use of computer laboratories, multimedia equipment and video equipment to assess and enhance sign-to-voice and voice-to-sign skill development. Prerequisites: SGNL 1402; SLNG 1211 or permission of instructor; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SLNG 2402 - INTERPRETING II
4 Credits (3 hrs. lec., 4 hrs. lab.) Enhancement of interpreting skills and discourse analysis to increasingly complex tasks utilizing simulated interpreting experienc-
es via multimedia materials. Emphasis on skill analysis and peer evaluation and additional development of transliterating skills in increasingly complex tasks. This course includes a study of current business practice and the use of computer laboratories, multimedia equipment and video equipment to assess and enhance sign-to-voice and voice-to-sign skill development. Prerequisites: SLNG 1321, 1347, and 2401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SLNG 2431 - INTERPRETING III
4 Credits (3 hrs. lec., 4 hrs. lab.) A practice-oriented course to strengthen skills in the integration and application of processing more complex selections. Continued exposure to simulated interpreting experience through the use of multimedia material. This course will also include the use of computer laboratories, multimedia equipment and video equipment to assess and enhance sign-to-voice and voice-to-sign skill development. Prerequisites: SLNG 2402; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SLNG 2589 - INTERNSHIP: SIGN LANGUAGE INTERPRETER
5 Credits (20 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Requires LSCS liability insurance. Prerequisites: Successful completion of all SLNG courses within the AAS degree plan; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SOCI 2301 - MARRIAGE AND FAMILY
3 Credits (3 hrs. lec.) This course has been developed to examine two phases of marriage and the family experience. First, it examines the structure of family life and the variance of this structure in different cultures and subcultures. Second, this course examines some of the problems and possible solutions that have developed in courtship, marriage and parenthood in a society undergoing rapid social change. (4511015425) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SOCI 2319 - MINORITY STUDIES
3 Credits (3 hrs. lec.) A sociological description, analysis and interpretation of racial and ethnic relations in America and other areas of the world is the focus of this course. Special emphasis is given to cultural development and inter-group relations of groups such as African Americans, Hispanics, Asian-Americans and Native Americans. (4511015325) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SOCI 2326 - SOCIAL PSYCHOLOGY
3 Credits (3 hrs. lec.) The course focuses on individual behavior as affected by cultural and social stimuli. Social behavior, interpersonal influence, group membership and the relations between persons and social systems are emphasized. (4227075125) Prerequisites: SOCI 1301 or PSYC 2301 or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SPAN 1300 - SPANISH CONVERSATION I
3 Credits (3 hrs. lec.) This is a conversational Spanish course for beginners. It includes extensive comprehension, oral practice, and use of multimedia materials. It is intended to develop basic communication skills for the student to apply these skills to everyday life and work situation. It is an alternate track for the student who needs immediate communicative experience in Spanish.
DESCRIPTION OF COURSES

SPAN 1411 - BEGINNING SPANISH I
4 Credits (3 hrs. lec., 2 hrs. lab.) This course includes beginner's pronunciation, oral practice, conversation, development of listening comprehension, basic principles of grammar, simple exercises in composition, easy reading which includes cultural material. Students with prior language experience must take a placement exam to advance to the next level and receive credit. (1609055113) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SPAN 1412 - BEGINNING SPANISH II
4 Credits (3 hrs. lec., 2 hrs. lab.) This course is a continuation of SPAN 1411 with increased emphasis on comprehension, speaking, reading and writing. Intensive drills to increase vocabulary and knowledge of structure. Students with prior language experience must take a placement exam to advance to the next level and receive credit. (1609055113) Prerequisites: SPAN 1411 or placement exam, ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SPAN 2311 - INTERMEDIATE SPANISH I
3 Credits (3 hrs. lec.) This course stresses both oral and written exercises to increase vocabulary, expansion of grammatical principles and short themes written on a variety of topics. Selected readings are included to improve comprehension in Spanish. Students with prior language experience should take a placement exam to advance to the next level and receive credit. (1609055213) Prerequisites: SPAN 1412 or placement by exam, ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SPAN 2312 - INTERMEDIATE SPANISH II
3 Credits (3 hrs. lec.) This course is a continuation of SPAN 2311, with emphasis on works by Spanish-speaking authors. Continued reinforcement of grammatical principles and development of writing skills are stressed. (1609055213) Prerequisites: SPAN 2311 or placement by exam, ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SPAN 2313 - SPANISH FOR NATIVE SPEAKERS I
3 Credits (3 hrs. lec.) Review and application of skills in listening comprehension, speaking, reading, and writing geared to compensate for the weaknesses and capitalize on the strengths of native speakers. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture. (1609055213) Prerequisites: SPAN 1412 OR placement by exam, ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SPAN 2315 - SPANISH FOR NATIVE SPEAKERS II
3 Credits (3 hrs. lec.) This course is a continuation of SPAN 2313, with emphasis on works by Spanish-speaking authors. Continued reinforcement of grammatical principles and development of writing skills are stressed. (1609055213) Prerequisites: SPAN 2311, SPAN 2313 or placement by exam, ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SPCH 1144, 1145, 2144, 2145 - FORENSIC ACTIVITIES
1 Credit (4 hrs. lab.) Laboratory course for students who participate extensively in forensic activities. Participation in intercollegiate forensic meets each semester is required. A maximum of four credit hours may be earned. (2310016012) Prerequisites: Approval of instructor, ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SPCH 1311 - INTRODUCTION TO COMMUNICATION
3 Credits (3 hrs. lec.) Introduces basic human communication principles and theories embedded in a variety of contexts including interpersonal, small group, and public speaking. (2313045112) Prerequisites: Approval of instructor, ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SPCH 1315 - PUBLIC SPEAKING
3 Credits (3 hrs. lec.) Application of communication theory and practice to the public speaking context, with emphasis on audience analysis, speaker delivery, ethics of communication, cultural diversity, and speech
organizational techniques to develop students’ speaking abilities. (2313045312) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

SPCH 1318 - INTERPERSONAL COMMUNICATION
3 Credits (3 hrs. lec.) Application of communication theory to interpersonal relationship development, maintenance, and termination in relationship contexts including friendships, romantic partners, families, and relationships with co-workers and supervisors. (2313045412) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

SPCH 1321 - BUSINESS AND PROFESSIONAL COMMUNICATION
3 Credits (3 hrs. lec.) Study and application of communication within the business and professional context. Special emphasis will be given to communication competencies in presentations, dyads, teams, and technologically mediated formats. (2313045212) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

SPCH 1342 - VOICE AND DICTION
3 Credits (3 hrs. lec.) Development and establishment of a good voice habit through a study of the principles and a practice of the techniques involved in excellence of voice and diction. Includes proper breathing techniques, sound production, kinesics, general speech standards, common voice problems, and methods to overcome problems. (2313045812) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

SPCH 2333 - DISCUSSION AND SMALL GROUP COMMUNICATION
3 Credits (3 hrs. lec.) Designed to promote a better understanding of how communication is used in the small group. More specifically, it will focus on both the theoretical principles and practical application of skills appropriate to effective small group interaction. Such a focus will entail active participation in groups, both in and out of class. (2313045612) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

SPCH 2335 - ARGUMENTATION AND DEBATE
3 Credits (3 hrs. lec.) A study and practice of the theories in argumentation and debate, including instruction in reasoning, analysis, organization, evidence, refutation, and presentation of critical decision making. (2313045912) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

SPCH 2341 - ORAL INTERPRETATION
3 Credits (3 hrs. lec.) This course consists of the interpretation of literature; preparation and reading of poetry and prose; storytelling for children; exercises in arranging and adapting stories; choral speaking; practice in phrasing, vocal quality, rhythm, and bodily responses. Recommended for majors in speech, radio-television, English, elementary education. (2313045712) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

SRGT 1260 - CLINICAL I - SURGICAL/OPERATING ROOM TECH
2 Credits (6 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: SRGT 1405; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: BIOL 2404.

SRGT 1405 - INTRODUCTION TO SURGICAL TECHNOLOGY
4 Credits (3 hrs. lec., 2 hrs. lab.) Orientation to surgical technology theory, surgical pharmacology and anesthesia, technological sciences, and patient care concepts. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: BIOL 2404.

SRGT 1409 - FUNDAMENTALS OF PERIOPERATIVE CONCEPTS AND TECHNIQUES
4 Credits (3 hrs. lec., 4 hrs. lab.) In-depth coverage of perioperative concepts such as aseptic/sterile
principles and practices, infectious processes, wound healing, and creation and maintenance of the sterile field. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

SRGT 1460 - CLINICAL II - SURGICAL TECHNOLOGY/TECHNOLOGIST
4 Credits (16 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: SRGT 1260; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

SRGT 1541 - SURGICAL PROCEDURES I
5 Credits (4 hrs. lec., 2 hrs. lab.) Introduction to surgical procedures and related pathologies with emphasis on surgical procedures related to general, obstetrics/gynecology, genitourinary, otorhinolaryngology, and orthopedic surgical specialties incorporating instruments, equipment, and supplies. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

SRGT 1542 - SURGICAL PROCEDURES II
5 Credits (4 hrs. lec., 2 hrs. lab.) Introduction to surgical procedures and related pathologies with emphasis on surgical procedures related to thoracic, peripheral vascular, plastic/reconstructive, ophthalmology, cardiac, and neurological surgical specialties incorporating instruments, equipment, and supplies. Prerequisites: SRGT 1541; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

SRGT 2130 - PROFESSIONAL READINESS
1 Credit (1 hr. lec.) Overview of professional readiness for employment, attaining certification, and maintaining certification status. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306; Corequisite: SRGT 2462

SRGT 2462 - CLINICAL III
4 Credit (24 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: SRGT 1460; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

SRVY 1171 - CAPSTONE EXAM PREP
1 Credit (3 hrs. lab.) This course provides an alternative learning experience for industry-employed students in lieu of the 256 contact hour internship and enhances their marketability in the field of surveying. The course serves as a comprehensive review for students planning to sit for NSPS/ACSM Survey Technician Certification Exam. Prerequisite: Departmental approval

SRVY 1301 - INTRODUCTION TO SURVEYING
3 Credit (3 hrs. lec.) An overview of the surveying profession. The history of surveying and its impact on the world. Review of the mathematics used in surveying. Introduction to basic surveying equipment with emphasis on measurements. Instruction on surveying procedures and the limitation of errors. Calculation to determine precision and error of closure. It includes an introduction to survey elements in CAD drafting. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing

SRVY 1315 - SURVEYING CALCULATIONS I
3 Credits (3 hrs. lec.) Review and application of mathematics used in surveying and mapping. Prerequisites: SRVY 1301; MATH 0306

SRVY 1319 - INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of the theory of geographic information systems, including conceptual understanding and database development, terms, definitions, classifications, use and client requirements, and prevailing and applicable professional standards. Projects and procedures to establish maps based upon geographic information systems. This course is part of the land surveying and mapping technology program. Prerequisites: SRVY 1301; MATH 0306

SRVY 1342 - GLOBAL POSITIONING SYSTEM TECHNIQUES FOR SURVEYING AND MAPPING
3 Credits (2 hrs. lec., 2 hrs. lab.) Introduction to Global Positioning System (GPS) in surveying and mapping activities. Major topics include structuring a GPS system, designing a GPS data collection project,
using GPS data collection equipment, collecting and processing GPS data, and correcting data errors. Surveying and mapping activities with public and private control networks. Prerequisite: SRVY 1301

**SRVY 1349 - SURVEYING CALCULATIONS II**
3 Credits (3 hrs. lec.) A study of the mathematical applications used in surveying and mapping. An overview of software and hardware, including programmable calculators and computers used in problem solving. Prerequisites: SRVY 1315 and MATH 0308

**SRVY 1413 - PLANE SURVEYING**
4 Credits (3 hrs. lec., 2 hrs. lab.) An introductory overview of surveying equipment and measurement techniques with emphasis on leveling and traversing. Prerequisite: None; Corequisite: SRVY 1301

**SRVY 1441 - LAND SURVEYING**
4 Credits (3 hrs. lec., 3 hrs. lab.) A study of the measurement and determination of boundaries, areas, shapes, location through traversing techniques. Instruction in a variety of adjustment methods using calculators and computers. Addresses methods of traversing and adjustment of errors according to prevailing professional standards. Prerequisite: None; Corequisite: SRVY 1301

**SRVY 2309 - COMPUTER AIDED MAPPING**
3 Credits (3 hrs. lec., 1 hr. lab.) Production of survey maps using appropriate computer aided drafting software. Includes plats, civil engineering design drawings and topographic maps. Prerequisite: SRVY 1301

**SRVY 2313 - CONTROL SURVEYING**
3 Credits (3 hrs. lec.) Emphasis on field astronomy calculations, state plane coordinates and the reduction of information received from Global Positioning System receivers. Prerequisite: SRVY 1301

**SRVY 2343 - SURVEYING - LEGAL PRINCIPLES I**
3 Credits (3 hrs. lec.) The study of location, conveyance, ownership and transfer of real property under the laws of the State of Texas. Emphasis on the history of disposition of public land, interpreting written descriptions, dignity of calls and evidence, and record search of public and private land records. Prerequisites: SRVY 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**SRVY 2344 - SURVEYING - LEGAL PRINCIPLES II**
3 Credits (3 hrs. lec.) An advanced course in legal principles, retracement and boundary location with application of legal principles and Rules of Construction for public land and Texas land laws; writing survey reports and property descriptions; and a review of boundary law cases. Prerequisites: SRVY 2343 and ENGL 1301

**SRVY 2487 - INTERNSHIP - SURVEY TECHNOLOGY/SURVEYING**
4 Credits (16 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the college and the employer. Prerequisite: Departmental approval

**TECA 1303 - FAMILIES, SCHOOL AND COMMUNITY**
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of the child, family, community and schools; including parent education and involvement; family and community lifestyle, child abuse, and current family life issues. Course content is aligned with State Board for Educator Certification Pedagogy and Professional Responsibilities standards. The course will provide students with opportunities to participate in a minimum of 16 hours field experience at sites with children (infants – age 12) in a variety of settings with varied and diverse populations. Requires LSCS liability insurance. (1301015209) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**TECA 1311 - EDUCATING YOUNG CHILDREN**
3 Credits (2 hrs. lec., 2 hrs. lab.) An introduction to the education of the young child, including developmentally appropriate practices and programs, theoretical and historical perspectives, ethical and professional responsibilities, and current issues. Course content is aligned with State Board for Educator Certification Pedagogy and Professional Responsibilities standards. The course will provide students with opportunities to participate in a minimum of 16 hours field experience at sites with children (infants – age 12) in a variety of settings with varied and diverse populations. Requires LSCS liability insurance. (1312025109) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**TECA 1318 - WELLNESS OF THE YOUNG CHILD**
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of the factors that impact the well-being of the young child including healthy behavior, food, nutrition, fitness and safety practices. Focus on local and national standards and legal implications of relevant policies and regulations. Course content is aligned with State
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Board of Educator Certification Pedagogy and Professional Responsibilities standards. The course will provide students with opportunities to participate in a minimum of 16 hours field experience at sites with children (infants – age 12) in a variety of settings with varied and diverse populations. Requires LSCS liability insurance. (1301015309) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

TECA 1354 - CHILD GROWTH AND DEVELOPMENT
3 Credits (3 hrs. lec.) A study of the physical, emotional, social, and cognitive factors impacting growth and development of children through adolescence. (1312025209) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

TECM 1303 - TECHNICAL CALCULATIONS
3 Credits (3 hrs. lec., 1 hr. lab.) A review of basic mathematics including whole numbers, fractions, mixed numbers, decimals, percents, ratios, and proportions. Converting to different units of measure (standard and/or metric) and other topics as required by specific businesses and industries will be covered. Prerequisite: MATH 0306 or placement by testing

VNSG 1119 - LEADERSHIP AND PROFESSIONAL DEVELOPMENT
1 Credit (1 hr. lec.) Study of the importance of professional growth. Topics include the role of the licensed vocational nurse in the multi-disciplinary health care team, professional organizations, and continuing education. Emphasis on application and preparation for the licensing examination and the workforce. Prerequisites: VNSG 1163, 1262, 1331 and 1409; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

VNSG 1122 - VOCATIONAL NURSING CONCEPTS
1 Credit (1 hr. lec.) Introduction to the nursing profession and its responsibilities and the legal and ethical issues in nursing practice. Concepts related to the physical, emotional, and psychosocial self-care of the learner/professional. This course is an elective for students enrolled in the integrated ADN program. Prerequisites: RNSG 1129, 1362, 2504; BIOL 2420; PSYC 2314; SOCI 1301; ENGL 1301 and 1 credit hour of KINE; Corequisite: VNSG 2362

VNSG 1160 - CLINICAL - BASICS
1 Credit (4 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This course involves direct patient interaction for mastery of entry level nursing skills and competencies performed in a variety of health care settings with a focus on long term care. Requires LSCS liability insurance. Prerequisites: Program admission; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1323

VNSG 1163 - CLINICAL - PEDIATRIC
1 Credit (3 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This course involves direct patient interaction for mastery of nursing skills and competencies performed in a variety of health care settings with a focus on the well and the ill child. Requires LSCS liability insurance. Prerequisites: VNSG 1160, 1260, 1304, 1323, 1400 and BIOL 2404; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1334

VNSG 1216 - NUTRITION
2 Credits (2 hrs. lec) Introduction to nutrients and diet therapy and the role of each in proper growth and development and the maintenance of health. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

VNSG 1226 - GERONTOLOGY
2 Credits (2 hrs. lec.) Overview of the physical, psychosocial, and cultural aspects of the aging process. Addresses disease processes of aging. Exploration of perceptions toward care of the older adult. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

VNSG 1238 - MENTAL ILLNESS
2 Credits (2 hrs. lec.) Study of human behavior with emphasis on emotional and mental abnormalities
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and modes of treatment incorporating the nursing process. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

VNSG 1260 - CLINICAL I
2 Credits (8 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This course involves direct patient interaction for mastery of nursing skills and competencies performed in a variety of healthcare settings with a focus on acute care. Requires LSCS liability insurance. Prerequisites: VNSG 1160; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1400

VNSG 1262 - CLINICAL II
2 Credits (11 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This course involves direct patient interaction for mastery of nursing skills and competencies performed in a variety of healthcare settings with a focus on acute care. Requires LSCS liability insurance. Prerequisites: VNSG 1160, 1260, 1304, 1323, 1400; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1409

VNSG 1304 - FOUNDATIONS OF NURSING
3 Credits (3 hrs. lec.) This course provides an introduction to the nursing profession including history, standards of practice, legal and ethical issues, and role of the vocational nurse. Topics include mental health, therapeutic communication, cultural and spiritual diversity, nursing process, and holistic awareness. Prerequisites: Program Admission; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

VNSG 1323 - BASIC NURSING SKILLS
3 Credits (2 hrs. lec., 3 hrs. lab.) Mastery of basic nursing skills and competencies for a variety of health care settings using the nursing process as the foundation for all nursing interventions. Prerequisites: Program Admission; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1160

VNSG 1330 - MATERNAL-NEONATAL NURSING
3 Credits (3 hrs. lec.) A study of the biological, psychological, and sociological concepts applicable to basic needs of the family including childbearing and neonatal care. Utilization of the nursing process in the assessment and management of the childbearing family. Topics include physiological changes related to pregnancy, fetal development, and nursing care of the family during labor and delivery and the postpartum. Prerequisites: VNSG 1163, VNSG 1311, VNSG 1262, VNSG 1409; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: VNSG 2161

VNSG 1331 - PHARMACOLOGY
3 Credits (3 hrs. lec.) This course provides instruction in fundamentals of medications and their diagnostic, therapeutic, and curative effects. Includes nursing interventions utilizing the nursing process. Prerequisites: VNSG 1160, 1260, 1304, 1323, 1400; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: VNSG 1262 and 1409

VNSG 1334 - PEDIATRICS
3 Credits (3 hrs. lec., 1 hr. lab.) Study of the care of the pediatric patient and family during health and disease. Emphasis on growth and developmental needs utilizing the nursing process. Prerequisites: VNSG 1160, VNSG 1260, VNSG 1304, VNSG 1323, VNSG 1400, BIOL 2404; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1163

VNSG 1400 - NURSING IN HEALTH AND ILLNESS I
4 Credits (4 hrs. lec., 1 hr. lab.) Introduction to general principles of growth and development, primary care needs of the patient across the life span, and therapeutic nursing interventions. Prerequisites: Program admission; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1260

VNSG 1409 - NURSING IN HEALTH AND ILLNESS II
4 Credits (4 hrs. lec., 1 hr. lab.) Introduction to health problems requiring medical and surgical interventions.
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Prerequisites: VNSG 1160, 1260, 1304, 1323, and 1400; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1262

VNSG 1410 - NURSING IN HEALTH AND ILLNESS III
4 Credits (4 hrs. lec., 1 hr. lab.) Continuation of Nursing in Health and Illness II. Further study of medical-surgical health problems of the patient including concepts of mental illness. Incorporates knowledge necessary to make the transition from student to graduate vocational nurse. Prerequisites: VNSG 1163, 1263, 1262 and 1409; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1262

VNSG 2161 - MATERNAL/NEWBORN CLINICAL
1 Credit (3 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This course involves direct patient interaction for mastery of nursing skills and competencies performed in a variety of health care settings with a focus on maternal/newborn care. Requires LSCS liability insurance. Prerequisites: VNSG 1163, 1331, 1262 and 1409; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1330

VNSG 2361 - CLINICAL III
3 Credits (15 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This course involves direct patient interaction for mastery of nursing skills and competencies performed in a variety of health care settings with a focus on maternal/newborn care. Requires LSCS liability insurance. Prerequisites: VNSG 1163, 1331, 1262 and 1409; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1330

VNSG 2362 - CLINICAL: PRACTICAL NURSE I
3 Credits (12 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This course is an elective for students enrolled in the integrated ADN program. Requires LSCS liability insurance. Prerequisites: RNSG 1129, 1362, and 2504; BIOL 2420; PSYC 2314; SOCI 1301; ENGL 1301 and 1 credit hour of KINE; Corequisite: VNSG 1122

VNSG 2363 - CLINICAL: PRACTICAL NURSE II
3 Credits (12 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This course is an elective for students enrolled in the ADN program. Requires LSCS liability insurance. Prerequisite: VNSG 2362 with a “C” or better

VTHT 1125 - PHARMACOLOGICAL CALCULATIONS
1 Credit (1 hr. lec.) Skill development in calculating drug dosages. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite AND departmental approval

VTHT 1140 - VETERINARY JURISPRUDENCE AND ETHICS
1 Credit (1 hr. lec.) Survey of laws, regulations, and ethical standards governing the veterinary profession. Prerequisite: VTHT 1413; Corequisite: VTHT 1441

VTHT 1166 - PRACTICUM VETERINARY/ANIMAL HEALTH TECHNOLOGY/TECHNICIAN
1 Credit (10 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisites: VTHT 1209, VTHT 1413, VTHT 2209 AND departmental approval

VTHT 1205 - VETERINARY MEDICAL TERMINOLOGY
2 Credits (2 hrs. lec.) Introduction to word parts, directional terminology, and analysis of common veterinary terms. Students will master the common terminology associated with the numerous systems covered in subsequent veterinary technology courses. Prerequisites: Departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

VTHT 1209 - VETERINARY NUTRITION
2 Credits (2 hrs. lec.) Fundamentals of energy and non-energy producing nutrients and their sources and functions. Integration of concepts including digestion, absorption, and metabolism with application to normal
and therapeutic nutritional needs. Prerequisites: VTHT 1205, VTHT 1301, VTHT 2217 AND departmental approval

VTHT 1301 - INTRODUCTION TO VETERINARY TECHNOLOGY
3 Credits (1 hr. lec., 4 hrs. lab.) Survey of the profession of veterinary technology with emphasis on basic techniques, handling and care of animals, and ethical and professional requirements. Clinical rotational time will be incorporated in the laboratory to develop feeding, handling, and medical treatment techniques. Prerequisites: Departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

VTHT 1345 - VETERINARY RADIOLOGY
3 Credits (1 hr. lec., 4 hrs. lab.) Presentation of theory and principles and practical application of radiology within the field of veterinary medicine. Preparation of technique charts, implementation of safety measures, radiographic processing, care of equipment, use of ultrasonography equipment, and performing contrast media studies. Clinical rotational time will be incorporated in the laboratory to develop phlebotomy techniques and handling skills. Prerequisites: VTHT 1413 AND departmental approval; Corequisites: VTHT 1140, VTHT 1441 and VTHT 2431

VTHT 1349 - VETERINARY PHARMACOLOGY
3 Credits (1 hr. lec., 4 hrs. lab.) Fundamentals of pharmacology including recognition, calculation, labeling, packaging, and administration of veterinary drugs, biologics and therapeutic agents. Discussion of normal and abnormal responses to these agents. Clinical rotation time is incorporated in the laboratory to develop phlebotomy techniques and handling skills. Prerequisites: VTHT 1413 AND departmental approval; Corequisites: VTHT 1140, VTHT 1441 and VTHT 2431

VTHT 1413 - VETERINARY ANATOMY AND PHYSIOLOGY
4 Credits (2 hrs. lec., 5 hrs. lab.) Gross anatomy of domestic animals including physiological explanations of how each organ system functions. Studies are to develop a practical application of knowledge and its relationship to the diagnoses and treatment of certain pathological problems and surgical conditions. Clinical rotation time is incorporated in the laboratory to develop feeding, handling, and treatment techniques for all domestic animals. Prerequisites: VTHT 1205, VTHT 1301, VTHT 2217 AND departmental approval

VTHT 1441 - ANESTHESIA AND SURGICAL ASSISTANCE
4 Credits (2 hrs. lec., 6 hrs. lab.) In-depth application of surgical, obstetrical, and anesthesia techniques including identification and use of instruments and equipment. A major portion of the course will include detailed instruction in the principles of pharmacology with a practical application in determining anesthetic dosages and after care treatments for patients. Necropsy techniques will be demonstrated with active participation by students. Prerequisites: VTHT 2201, VTHT 1413 and departmental approval; Corequisites: VTHT 1140, VTHT 1345 and VTHT 2431

VTHT 2201 - CANINE AND FELINE CLINICAL MANAGEMENT
2 Credits (1 hr. lec., 2 hrs. lab.) Survey of feeding, common management practices, and care of canines and felines in a clinical setting. Review of common diseases of canines and felines encountered in the practice of veterinary medicine. Prerequisites: VTHT 1125, VTHT 1209, VTHT 1301 and VTHT 1413

VTHT 2205 - EQUINE CLINICAL MANAGEMENT
2 Credits (1 hr. lec., 2 hrs. lab.) Survey of feeding, common management practices, and care of equines encountered in the practice of veterinary medicine. Prerequisites: VTHT 1205, VTHT 1301, and VTHT 1413

VTHT 2209 - FOOD ANIMAL CLINICAL MANAGEMENT
2 Credits (1 hr. lec., 2 hrs. lab.) Survey of feeding, common management practices, and care of food producing animals in a clinical setting. Review of common diseases of food producing animals encountered in the practice of veterinary medicine. Prerequisites: VTHT 1205, VTHT 1301, and VTHT 2217

VTHT 2213 - LAB ANIMAL CLINICAL MANAGEMENT
2 Credits (2 hrs. lec., 1 hr. lab.) Survey of feeding, common management practices, and care of laboratory animals in a clinical setting. Review of common diseases of laboratory animals encountered in the practice of veterinary medicine. Prerequisites: VTHT 1209 and VTHT 1413

VTHT 2217 - EXOTIC ANIMAL CLINICAL MANAGEMENT
2 Credits (2 hrs. lec.) Survey of feeding, common management practices, and care of exotic animals in a clinical or zoological setting. Review of common diseases of exotic animals encountered in the practice of veterinary medicine. Corequisites: VTHT 1301 and VTHT 1205
VTHT 2421 - VETERINARY PARASITOLOGY
4 Credits (3 hrs. lec., 3 hrs. lab.) Study of parasites common to domestic animals including zoonotic diseases. This course will include the study of both ectoparasites and endoparasites with discussions on control measures of public health importance and the pharmaceuticals appropriate for the parasite's elimination. Prerequisites: VTHT 1209, VTHT 1413, and VTHT 2209

VTHT 2323 - VETERINARY CLINICAL PATHOLOGY I
3 Credits (2 hrs. lec., 2 hrs. lab.) In-depth study of hematology and related chemistries with emphasis on lab procedures. This course is designed to introduce the student to the theory of hematology and urology. Hematology evaluation and urinalysis will be stressed to determine chemical and physical properties of all the diagnostic fluids. Prerequisite: VTHT 1209, 1413, and 1266 or permission from the program director

VTHT 2360 - CLINICAL
3 Credits (14 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisite: VTHT 2323; Corequisites: VTHT 1345, 1441, 1140, and 2431

VTHT 2431 - VETERINARY CLINICAL PATHOLOGY II
4 Credits (3 hrs. lec., 3 hrs. lab.) In-depth study of urinalysis and cytology. Survey of microbiological techniques. Emphasis of laboratory procedures. A continuation of VTHT 2323 with a more technologically oriented evaluation of body fluids including blood chemistry and cytology. Microbiology, bacteriology and virology are also presented in detail. Prerequisite: VTHT 2323; Corequisites: VTHT 1140, 1345, and 1441

WIND 1300 - INTRODUCTION TO WIND ENERGY
3 Credits (2 hrs. lec., 2 hrs. lab.) Introduction of wind technology, wind farm design, and wind power delivery. Prerequisite: none.

WIND 2359 - WIND POWER DELIVERY SYSTEM
3 Credits (2 hrs. lec., 2 hrs. lab.) Components, equipment, and infrastructure used in the production and transmission of electricity as related to wind turbine power. Prerequisite: WIND 1300.

WLDG 1405 - ART METALS
4 Credits (3 hrs. lec., 3 hrs. lab.) Fundamentals of conceptualizing and producing utilitarian items in ferrous and non-ferrous metals. Skill development through the techniques of sinking, raising, repousse, and piercing to create objects from sheet and stock materials. Includes welding, brazing, soldering, tinning, polishing, and tool making. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

WLDG 1417 - INTRODUCTION TO LAYOUT AND FABRICATION
4 Credits (3 hrs. lec., 3 hrs. lab.) A fundamental course in layout and fabrication related to the welding industry. Major emphasis on structural shapes and use in construction. Prerequisites: WLDG 1413 and WLDG 1421

WLDG 1421 - INTRODUCTION TO WELDING FUNDAMENTALS
4 Credits (3 hrs. lec., 3 hrs. lab.) An introduction to the fundamentals of equipment used in oxyacetylene and arc welding, including welding and cutting safety, basic oxyacetylene welding and cutting, basic arc welding processes and basic metallurgy. Prerequisite: None

WLDG 1428 - INTRODUCTION TO SHIELDED METAL ARC WELDING (SMAW)
4 Credits (3 hrs. lec., 3 hrs. lab.) An introduction to the shielded metal arc welding process. Emphasis placed on power sources, electrode selection, oxy-fuel cutting, and various joint designs. Instruction provided in SMAW fillet welds in various positions. Prerequisites: WLDG 1421 and WLDG 1413

WLDG 1430 - INTRODUCTION TO GAS METAL ARC WELDING (GMAW)
4 Credits (3 hrs. lec., 3 hrs. lab.) Principles of gas metal arc welding, setup and use of Gas Metal Arc Welding (GMAW) equipment, and safe use of tools/equipment. Instruction in various joint designs. Prerequisites: WLDG 1413 and WLDG 1421

WLDG 1434 - INTRODUCTION TO GAS TUNGSTEN ARC WELDING (TIG)
4 Credits (3 hrs. lec., 3 hrs. lab.) Principles of gas tungsten arc welding (GTAW), including setup, GTAW equipment. Instruction in various positions and joint designs. Prerequisites: WLDG 1413 and WLDG 1421
WLDG 1435 - INTRODUCTION TO PIPE WELDING
4 Credits (3 hrs. lec., 3 hrs. lab.) An introduction to welding of pipe using the shielded metal arc welding process, including electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 1G and 2G using various electrodes. Prerequisite: None; Corequisite: WLDG 1457

WLDG 1453 - INTERMEDIATE LAYOUT AND FABRICATION
4 Credits (3 hrs. lec., 3 hrs. lab.) An intermediate course in layout and fabrication. Includes design and production of shop layout and fabrication. Emphasis placed on symbols, blueprints, and written specifications. Prerequisite: WLDG 1417

WLDG 1457 - INTERMEDIATE SHIELDED METAL ARC WELDING (SMAW)
4 Credits (3 hrs. lec., 3 hrs. lab.) A study of the production of various fillets and groove welds. Preparation of specimens for testing in various positions. Prerequisite: WLDG 1428

WLDG 2380 - COOPERATIVE EDUCATION - WELDER/WELDING
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisite: Departmental approval

WLDG 2413 - INTERMEDIATE WELDING USING MULTIPLE PROCESSES
4 Credits (3 hrs. lec., 3 hrs. lab.) Instruction using layout tools and blueprint reading with demonstration and guided practices with some of the following welding processes: oxy-fuel gas cutting and welding, shield metal arc welding (SMAW), gas metal arc welding (GMAW), flux-cored arc welding (FCAW), gas tungsten arc welding (GTAW), or any other approved welding process. Prerequisites: WLDG 1421; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

WLDG 2435 - ADVANCED LAYOUT AND FABRICATION
4 Credits (3 hrs. lec., 3 hrs. lab.) An advanced course in layout and fabrication. Includes production and fabrication of layout, tools, and processes. Emphasis on application of fabrication and layout skills. Prerequisite: WLDG 1453

WLDG 2440 - STUDIO PROBLEMS IN ART METALS
4 Credits (3 hrs. lec., 3 hrs. lab.) Project development in an open-studio atmosphere. Individualized instruction to encourage skill combinations and experimentation. Topics include portfolio preparation and presentation. Prerequisites: WLDG 1405

WLDG 2447 - ADVANCED METAL ARC WELDING (MIG)
4 Credits (3 hrs. lec., 3 hrs. lab.) Advanced topics in Gas Metal Arc Welding (GMAW). Includes welding in various positions and directions. Prerequisite: WLDG 1430

WLDG 2451 - ADVANCED GAS TUNGSTEN ARC WELDING (TIG)
4 Credits (3 hrs. lec., 3 hrs. lab.) Advanced topics in GTAW welding, including welding in various positions and directions. Prerequisite: WLDG 1434

WLDG 2453 - ADVANCED PIPE WELDING
4 Credits (3 hrs. lec., 3 hrs. lab.) Advanced topics involving welding of pipe using the shielded metal arc welding process. Topics include electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 5G and 6G using various electrodes. Prerequisite: WLDG 1435