COMPUTER AND INFORMATION TECHNOLOGY (CIT)

CIT 1100
IT Fundamentals
3 Credit Hours
Students will develop a broad understanding in all areas of Information Technology. Students will be introduced to computer hardware and software concepts, infrastructure, software development and databases. Students will also learn hardware and software installation, basic network connectivity, identification and prevention of basic security risks. This course will prepare students for the CompTIA IT Fundamentals+ certification exam. (3 lecture hours)
Course types: Contemporary Life Skills (A.A., A.S., A.A.S., A.G.S.)

CIT 1111
Computer and Hardware Maintenance
3 Credit Hours
Covers aspects of hardware support relating to personal computers (PCs), including system troubleshooting, configuring and maintain PCs, mobile devices, networking and security forensics. Prepares the student for the CompTIA A+ Core exams. (2 lecture hours, 2 lab hours)

CIT 1112
Operating System Maintenance
3 Credit Hours
Install, configure and maintain operating system software and implement security forensics. Learn to diagnose, resolve, and document common software issues. Understand proper customer support and basic scripting. Prepares the student for the CompTIA A+ Core exams. (2 lecture hours, 2 lab hours)

CIT 1113
Advanced Computer Maintenance Tools
2 Credit Hours
Covers advanced system maintenance with emphasis on maintaining and repairing computers, data recovery, system restore, cabling, soldering, malicious software detection and removal. (1 lecture hour, 2 lab hours)
Prerequisite: CIT 1111 and CIT 1112, both with a grade of C or better, or equivalent or CompTIA A+ Certification or consent of instructor.

CIT 1114
Apple Mac Operating Systems
3 Credit Hours
Introduction to configuring and maintaining the Apple Macintosh Operating System (MacOS). Troubleshooting, configuration and upgrading of Apple Mac operating systems will be covered. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1111 and CIT 1112, both with a grade of C or better, or equivalent or consent of instructor.

CIT 1116
Network Essentials
3 Credit Hours
Course covers principles of wired and wireless network devices, configuration, and data network systems operation. Technologies such as mobile, cloud, and virtualization are also covered in this course. It also prepares the student for the CompTIA Network+ certification exam. Completion of CIT 1100 is recommended. (2 lecture hours, 2 lab hours)

CIT 1120
Network Addressing Fundamentals
2 Credit Hours
Introduction to numbering systems used in computers and networking systems. Binary, Hexadecimal, Subnetting, Variable Length Subnet Masks (VLSM), Classless Inter-Domain Routing (CIDR), Supernetting, Internet Protocol versions will be covered. Preparation for Cisco CCENT or CCNA. (2 lecture hours, 1 lab hour)

CIT 1121
Introduction to Networks
3 Credit Hours
Introduction to fundamentals of networking. Highlighting practical and conceptual skills required to understand current and emerging technologies. Outlining basic networking technologies including OSI model, TCP/IP model, networking devices, media types, and network addressing schemes. Basic configuration of routers and switches. Preparation for Cisco CCNA Certification. Completion of CIT 1120 or equivalent is recommended prior to enrollment. (2 lecture hours, 2 lab hours)
Course types: Contemporary Life Skills (A.A., A.S., A.A.S., A.G.S.)

CIT 1122
Routing and Switching Essentials
3 Credit Hours
Survey of network architecture and operations of routers and switches in a networked environment. Learn to configure and analyze routers and switches. Contrast and implement routing and switching operations. Preparation for Cisco CCNA. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1121 with a grade of C or better, or equivalent or consent of instructor.

CIT 1123
Scaling Networks, Security, & Automation
3 Credit Hours
Administration of network architecture and operations of routers and switches in complex environments. Learn to configure, analyze and troubleshoot routers and switches in an advanced complex environment. Preparation for Cisco CCNA. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1122 with a grade of C or better, or equivalent or onsent of instructor.

CIT 1124
Connecting Networks
3 Credit Hours
Learn and apply practical skills required to configure, implement, and troubleshoot advanced networks. Identify Wide Area Network (WAN) technologies and network services required by converged applications in a complex network. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1123 or equivalent or consent of instructor.

CIT 1125
Network Design & Development
3 Credit Hours
Design of network infrastructures and services with emphasis on network design principles, theory, and management. Course focuses on designing basic campus, data center, security, voice, and wireless networks. (3 lecture hours)
Prerequisite: CIT 1123 with a grade of C or better, or equivalent or consent of instructor.

CIT 1140
Cloud Essentials
3 Credit Hours
Introduces a dynamic Web with cloud based applications providing the ability for people to collaborate. Covers legal and ethical concerns regarding responsible use of cloud based technology. Includes cloud computing concepts such as implementation, benefits and risks, and major service providers. Covers areas in preparation for current CompTIA Cloud Exam. (3 lecture hours)
Prerequisite: CIS 1110, CIS 1120, or CIS 1150 with a grade of C or better, or equivalent; or CIT 1100 with a grade of C or better, or equivalent; or consent of instructor.

CIT 1450
Intro to Linux/Unix Operating Systems
3 Credit Hours
Introduction to Linux/Unix, a multi-user, multi-processing, interactive, real time operating system. Emphasis on building a foundation to understand and effectively use the filesystem, utilities, and processes in a command line shell environment. Practical demonstration of operating system concepts in the Linux operating system. (3 lecture hours)
Prerequisite: CIS 1150 or CIS 1160 or CIT 1122 or equivalent or consent of instructor.

CIT 1612
Windows PC Desktop Operating Systems
3 Credit Hours
Introduction to Windows operating system support. Topics include install, upgrade, migrate Windows operating system, and configuration of hardware and software applications. Prepares students for Microsoft Certified certification exam. (2 lecture hours, 2 lab hours)

CIT 1613
Enterprise PC Support Technician
3 Credit Hours
Prepares students to manage and maintain Windows operating system. Topics include managing and maintaining issues related to PC Windows operating system. Prepares students for Microsoft Certified Solution Associate (MCSA) certification. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1612 with a grade of C or better, or equivalent.

CIT 1640
Network Security Fundamentals
3 Credit Hours
Information security principles for implementing and managing security in enterprise. Review of information security, including terminology and overview of information security management. This course prepares students for CompTIA Security+ examination. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1122 with a grade of C or better, or equivalent or CIT 1116 with grade of C or better, or equivalent or consent of instructor.

CIT 1645
Internet Telephony
3 Credit Hours
Covers aspects of converging voice, data, messaging, and video using Voice Over Internet Protocol (VoIP) technologies. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1121 with a grade of C or better, or equivalent or consent of instructor.

CIT 1650
Network Project Management
3 Credit Hours
Introduction to project management tools and methodology as needed for the CompTIA Project+ certification. Topics include project initiation, project planning, estimating and scheduling, team building, controlling cost, budgeting and resource allocation, project quality, and closure. (3 lecture hours)

CIT 1710
Introduction to Servers
3 Credit Hours
Introduction to server hardware and software technologies and various types of server operating systems. Topics include server hardware, software, storage, disaster recovery, and troubleshooting. Prepares students for Microsoft Certified Solution Associate (MCSA) certification. The following courses are recommended prior to enrollment: CIT 1112 or CIT 1612. (2 lecture hours, 2 lab hours)

CIT 1825
Selected Topics
2 Credit Hours
Introductory exploration and analysis of selected topics with a specific theme indicated by course title listed in college class schedule. This course may be taken four times for credit as long as different topics are selected. (2 lecture hours)

CIT 1840
Independent Study
1-4 Credit Hours
Exploration and analysis of topics within the discipline to meet individual student-defined course description, goals, objectives, topical outline, and methods of evaluation in coordination with, and approved by the instructor. This course may be taken four times for credit as long as different topics are selected. (1 to 4 lecture hours)
Prerequisite: Consent of instructor is required.

CIT 2150
Wireless Network Administration
3 Credit Hours
Introduction to designing, implementing, configuring, troubleshooting and maintaining wireless networks. Learn to configure wireless devices based on current emerging wireless standards. Compare and configure various wireless vendors equipment's in preparation for deployment. Preparation for various wireless certifications including CCNA-Wireless. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1122 with a grade of C or better, or equivalent or consent of instructor.

CIT 2170
Virtualization Fundamentals
2 Credit Hours
Provides practical skills required to install and configure virtual environments. Topics include hypervisor installation, guest operating system installation, snapshot creation, virtual machine cloning, team management, and virtual machine networking. (1 lecture hour, 2 lab hours)
Prerequisite: CIT 1121 with a grade of C or better, or equivalent or consent of instructor

CIT 2173
Virtualization: Install/Configure/Manage
3 Credit Hours
Students will develop practical skills required to install and configure VMware virtual vSphere. Topics covered include installation and configuration of ESXi, vCenter server, storage networking, vMotion, high availabilities and data protection. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1122 with a grade of C or better, or equivalent or consent of instructor.

CIT 2175
Information Storage and Management
3 Credit Hours
Students in this course will develop practical knowledge and skills in information storage technologies. Students will learn about the architectures, features, and benefits of Intelligent Storage Systems (ISM); networked storage technologies such as Fiber-Channel Storage Area Network (FC-SAN), Internet Protocol (IP) Storage Area Networks (SAN), IP-SAN, and Network Attached Storage. Students will engage with backup, replication, archiving, and information security. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1122 with a grade of C or better, or equivalent or consent of instructor.

CIT 2241
Enterprise Network Core Technologies
3 Credit Hours
Explores implementing core enterprise network technologies including dual stack (IPv4 and IPv6) architecture, virtualization, infrastructure, network assurance, security and automation. This course prepares students for the Cisco Enterprise Network Core Technologies (ENCOR) exam. This course may be repeated two times for credit as the industry certification exam changes. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1123 with a grade of C or better, or equivalent or consent of instructor.

CIT 2242
Enterprise Advanced Routing and Services
3 Credit Hours
Explores implementation and troubleshooting of advanced routing technologies and services including Layer 3, VPN services, infrastructure security, infrastructure services, and infrastructure automation. This course prepares students for the Cisco Enterprise Advanced Routing and Services (ENARSI) exam. This course may be repeated two times for credit as industry certification exam changes. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 2241 with a grade of C or better, or equivalent or consent of instructor.

CIT 2243
Enterprise Advanced Switching - SWITCH
3 Credit Hours
Explores basic and multi-layer switching configuration. Includes Spanning Tree Protocol (STP), Virtual Local Area Networks (VLANs), secure integration of VLANs, inter-VLAN routing, First hop redundancy protocols, voice over internet protocol (VoIP), and security. This course prepares students for the CCNP SWITCH Exam. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1124 with a grade of C or better, or equivalent or consent of instructor.

CIT 2244
Enterprise Advanced Troubleshooting - TSHOOT
3 Credit Hours
Explores methods and tools used to troubleshoot the following: Internet Protocol (IP) communication problems, IP problems, Local Area Network (LAN) switch environments, Virtual Local Area Networks (VLANs) in router and switch environments, Enhanced Interior Gateway Routing Protocol (EIGRP), Open Shortest Path First (OSPF), and Border Gateway Protocol (BGP) problems. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 2241 and CIT 2243, both with a grade of C or better, or equivalent or consent of instructor.

CIT 2251
Enterprise Network Security
3 Credit Hours
Provides the knowledge and hands-on skills required to design, implement, troubleshoot, and monitor network security. Learn to mitigate network attacks through a working knowledge of network security principles, tools, and configurations. Preparation for Cisco CCNA-Security. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1122 with a grade of C or better, or equivalent or consent of instructor.

CIT 2410
Enterprise Internet Telephony
3 Credit Hours
Explores components and operation of Voice over Internet Protocol (VoIP). Configuration of Cisco Unified Communications Manager and Cisco Unified Communications Manager Express solutions are covered. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1122 with a grade of C or better, or equivalent or consent of instructor.

CIT 2455
LINUX System Administration
3 Credit Hours
Contemporary Linux operating system administration and maintenance course. Emphasizes Linux system installation, management, user account control, file system and services, storage management, system performance, and security. Covers concepts of current Linux industry certification exams. (2 lecture hours, 2 lab hours)
Prerequisite: CIS 1450 or CIT 1450, or equivalent, or consent of instructor.

CIT 2510
Cloud Server Computing Services and Administration
3 Credit Hours
Introduction to cloud computing and administration, core Azure services, core solutions, management tools on Azure, general security and network security features, identity, governance, privacy, and compliance features. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1710 with a grade of C or better, or equivalent or CIS 1620 with a grade of C or better, or equivalent or consent of instructor.

CIT 2511
Advanced Server Configuration
3 Credit Hours
Prepares students to perform advanced configuration of network server technologies and various types of server services with hands-on practice. Topics include activate directory, certificate services, and group policy. Prepares students for Microsoft Certified Solution Associate (MCSA) certification. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1710 with a grade of C or better, or equivalent or CISs 1620 with a grade of C or better, or equivalent or consent of instructor.

CIT 2631
Cyber Defense
3 Credit Hours
Introduces network security methodologies used to analyze attack strategies and the countermeasures employed to prevent attacks. Exposes students to the various phases involved in hacking, attacks, countermeasures, and exploit categories. Concepts, principles and techniques are supplemented by hands-on exercises for defending against vulnerabilities and improve network security. The topics are presented in the context of properly securing the network. This course aligns with the CompTIA CySA+ certification exam objectives. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1640 or equivalent or consent of instructor.

CIT 2640
Ethical Hacking
3 Credit Hours
Introduces network security methodologies used to attack a network and the countermeasures employed to prevent attacks. Exposes students to the various phases involved in hacking, attacks, countermeasures, and exploit categories. Concepts, principles and techniques are supplemented by hands-on exercises for attacking and disabling a network. The topics are presented in the context of properly securing the network. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1640 or equivalent or consent of instructor.

CIT 2651
Computer Forensics I
3 Credit Hours
Perform data preservation, identification, extraction, documentation and interpretation of computer data. Topics covered include evidence handling, chain of custody, collection, preservation, identification, and recovery of computer data using forensic recovery software and methods. (2 lecture hours, 2 lab hours)
Prerequisite: Recommended: Basic PC navigational skill sets, or CIT 1111, or CIT 1112.

CIT 2652
Computer Forensics II
3 Credit Hours
A continuation of Computer Forensics I. Extends the use of analysis software and forensics tools. Focuses on network and open source forensics tools. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 2651 with a grade of C or better, or equivalent or consent of instructor.

CIT 2710
Computer Information Technology Capstone
3 Credit Hours
This Capstone course applies acquired knowledge, skills, and techniques acquired in the Computer Information Technologies AAS Degree. (2 lecture hours, 2 lab hours)
Prerequisite: CIT 1640, CIT 2251, and CIT 2410, all with a grade of C or better, or equivalent or consent of instructor. We recommend students take the capstone course in their last semester.

CIT 2840
Experimental/Pilot Class
1-6 Credit Hours
Exploration and analysis of topics within the discipline. This course is used to pilot a proposal for a permanent discipline course. This course may be taken four times for credit as long as different topics are selected. (6 lecture hours, 12 lab hours)
Prerequisite: Consent of instructor is required.

CIT 2860
Internship (Career & Technical Ed)
1-4 Credit Hours
Course requires participation in Career and Technical Education work experience with onsite supervision. Internship learning objectives are developed by student and faculty member, with approval of employer, to provide appropriate work-based learning experiences. Credit is earned by working a minimum of 75 clock hours per semester credit hour, up to a maximum of four credits. (5 to 20 lab hours)
Prerequisite: Consent of instructor and 2.0 cumulative grade point average; 12 semester credits earned in a related field of study; students work with Career Services staff to obtain approval of the internship by the Dean from the academic discipline where the student is planning to earn credit.
Course types: Contemporary Life Skills (A.A., A.S., A.A.S., A.G.S.)

CIT 2865
Internship Advanced (Career & Tech Ed)
1-4 Credit Hours
Continuation of Internship (Career and Technical Education). Course requires participation in Career & Technical Education work experience with onsite supervision. Internship learning objectives are developed by student and faculty member, with approval of employer, to provide appropriate work-based learning experiences. Credit is earned by working a minimum of 75 clock hours per semester credit hour, up to a maximum of four credits. (5 to 20 lab hours)
Prerequisite: Consent of instructor and 2.0 cumulative grade point average; 12 semester credits earned in a related field of study; students work with Career Services staff to obtain approval of the internship by the Dean from the academic discipline where the student is planning to earn credit.
Course types: Contemporary Life Skills (A.A., A.S., A.A.S., A.G.S.)