Computer & Internetworking Technologies

PC Maintenance & Upgrading

CIT 1100 - 2 Credits

Introduction to maintaining and upgrading personal computers (PCs). System component identification, configuration, assembly and disassembly, upgrading procedures, basic troubleshooting techniques, and preventative maintenance are included. Prepares students for the CompTIA Strata certification. (1 lecture hour, 2 lab hours)

Computer and Hardware Maintenance

CIT 1111 - 3 Credits

Covers aspects of hardware support relating to personal computers (PCs) including system troubleshooting, system board, drive subsystems, memory, input/output devices, and multimedia. Prepares the student for the CompTIA A+ exam. Prerequisite: Computer and Internetworking Technologies 1100 with a grade of C or better or equivalent or consent of instructor (2 lecture hours, 2 lab hours)

Advanced System Maintenance

CIT 1112 - 3 Credits

Maintaining and servicing modern personal computer systems, with emphasis on advanced hardware, operating systems, troubleshooting, networks, printers, and other peripheral devices. Prepares the student for the CompTIA A+ exam. Prerequisite: Computer and Internetworking Technologies 1100 with a grade of C or better or equivalent or consent of instructor (2 lecture hours, 2 lab hours)

Advanced Computer Maintenance Tools

CIT 1113 - 2 Credits

Covers advanced system maintenance with emphasis on maintaining and repairing laptop computers, data recovery, system restoral, virus detection and removal. Students will use the latest freeware tools with emphasis on using Knoppix as a troubleshooting tool. Prerequisite: Computer and Internetworking Technologies 1111 with a grade of C or better, or equivalent and Computer and Internetworking Technologies 1112 with a grade of C or better, or equivalent or CompTIA A+ Certification or consent of instructor. (1 lecture hours, 2 lab hours)

Apple MacOS Maintenance/Troubleshooting

CIT 1114 - 3 Credits

Introduction to configuring and maintaining the Apple Macintosh Operating System (MAC O/S). Troubleshooting, configuration and upgrading of Apple MAC operating systems will be covered. Prerequisite: Comptuter and Internetworking Technologies 1100 with a grade of C or better or equivalent, Computer and Internetworking Technologies 1111 and Computer and Internetworking Technologies 1112 with a grade of C or better or equivalent or consent of instructor (2 lecture hours, 2 lab hours)

Binary Numbers & Subnetting

CIT 1120 - 2 Credits

Introduction to numbering systems used in computers and networking systems. Binary, Hexadecimal numbering systems as well as subnetting, Variable Length Subnet Masks (VLSM), Classless Inter-Domain Routing (CIDR), Supernetting, Internet Protocol version 4 (IPv4), and an overview of IPv6. (2 lecture hours)

Introduction to Networks

CIT 1121 - 3 Credits

Current and emerging internetworking technologies. Including Open Systems Interconnect (OSI) reference model, binary numbers, hexadecimal numbers, address classes, Internet Protocol (IP) addressing and subnetting, protocols, standards, and cabling techniques. Completion of Computer Information Systems 1120 or equivalent is recommended prior to enrollment. (2 lecture hours, 2 lab hours)

Routing and Switching Essentials

CIT 1122 - 3 Credits

Describe the architecture, components, and operations of routers and switches in a small network. Students learn to configure and troubleshoot routers and switches for basic functionality. Prerequisite: Computer and Internetworking Technologies 1121 with a grade of C or better or equivalent or consent of instructor. (2 lecture hours, 2 lab hours)

Scaling Networks

CIT 1123 - 3 Credits

Practical skills required to configure routers and switches for advanced functionality. The content of the course aligns with CISCO certification. Prerequisite: Computer and Internetworking Technologies 1122 with a grade of C or better or equivalent or consent of instructor. (2 lecture hours, 2 lab hours)

Computer & Internetworking Technologies

Connecting Networks

CIT 1124 - 3 Credits

Practical skills required to configure and troubleshoot network devices and resolve common issues with data link protocols. The content of the course aligns with Cisco certification. Prerequisite: Computer and Internetworking Technologies 1123 or equivalent or consent of instructor. (2 lecture hours, 2 lab hours)

Cisco Certified Design Associate (CCDA)

CIT 1125 - 3 Credits

Design of routed and switched network infrastructures and services involving Local Area Network (LAN), Wide Area Network (WAN), and broadband access for businesses and organizations. After completion of this course students should be prepared to participate in the Cisco Certified Design Associate (CCDA) examination. Prerequisite: Computer and Internetworking Technologies 1124 with a grade of C or better, or equivalent or consent of instructor. (3 lecture hours)

Wireless Network Administration

CIT 1151 - 3 Credits

Introduction to the design, implementation and maintenance of wireless networks. Topics include 802.11 standards, wireless radio technology, wireless topologies, access points, bridges, wireless security, site surveys, troubleshooting and antenna systems. Prerequisite: Computer and Internetworking Technologies 1121 with a grade of C or better or equivalent or consent of instructor (2 lecture hours, 2 lab hours)

Windows PC Desktop Operating Systems

CIT 1612 - 3 Credits

Introduction to Microsoft Windows 8 operating system support. Topics include install, upgrade, and migrate Microsoft windows operating system, and configuration of hardware and software applications. Prepares students for Microsoft Certified Solution Associate (MCSA) certifications. (2 lecture hours, 2 lab hours)

Enterprise Desktp PC Support Technician

CIT 1613 - 3 Credits

Supporting Microsoft Windows operating system. Topics include managing and maintaining issues related to Microsoft PC windows operating system. Prepares students for Microsoft Certified

Solution Associate (MCSA)certification. Prerequisite: Computer and Internetworking Technologies 1612 with a grade of C or better, or equivalent (2 lecture hours, 2 lab hours)

Network Plus

CIT 1635 - 3 Credits

Principles of data communications and network systems are covered with an emphasis on: Local Area Networks (LANs), Wide Area Network (WANs), Wi-Fi, Network management, Network troubleshooting, Network security, Internet Protocol Version 4 (IPv4), Internet Protocol Version 6 (IPv6), Convergence, and Routing. Prepares student for the CompTIA Network+ Exam. Prerequisite: Computer and Internetworking Technologies 1121 with a grade of C or better or equivalent or consent of instructor. (2 lecture hours, 2 lab hours)

Security Plus

CIT 1640 - 3 Credits

Information security principles providing participants the tools for implementing and managing security in the enterprise. Covers a broad review of information security, including the terminology and overview of information security management. After completion of this course students should be prepared to participate in the CompTIA Security+ examination. Prerequisite: Computer and Internetworking Technologies 1124 or Computer and Internetworking Technologies 1635 with grade of C or better or equivalent or consent of instructor (2 lecture hours, 2 lab hours)

Internet Telephony

CIT 1645 - 3 Credits

Covers aspects of converging voice, data, messaging, and video as well as emerging Voice Over Internet Protocol (VOIP) Technologies. Circuit switched and packet switched networks will be covered as well as related protocols. Prepares the student for the CompTIA Convergence+ certification exam. Recommended: Computer and Internetworking Technologies 1640 with a grade of C or better, or equivalent. Prerequisite: Computer and Internetworking Technologies 1121 with a grade of C or better or equivalent (2 lecture hours, 2 lab hours)

IT Project Plus

CIT 1650 - 3 Credits

Introduction to IT 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)

Computer & Internetworking Technologies

Server Plus

CIT 1710 - 3 Credits

Introduction to server hardware and software technologies and various types of server operating systems. Topics include server hardware, software, storage, disaster recovery, and troubleshooting. Prepare students for CompTIA server+ certification exam. Prerequisite: Computer and Internetworking Technologies 1112 with a grade of C or better or equivalent or consent of instructor. (2 lecture hours, 2 lab hours)

Selected Topics

CIT 1825 - 2 Credits

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)

Independent Study

CIT 1840 - 1-4 Credits

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. Prerequisite: Consent of instructor is required (1 to 4 lecture hours)

Virtual PC-VMware Workstation

CIT 2170 - 2 Credits

Practical skills required to install and configure VMware virtual workstation. Topics include VMware workstation installation, guest operating system installation, snapshot creation, virtual machine cloning, team management and virtual machine networking. (1 lecture hour, 2 lab hours)

Cisco Certifd Netwk Professional-ROUTE

CIT 2241 - 3 Credits

Basic routing principles including route summarization, route redistribution, route optimization, Internet Protocol version 4 (IPv4) and IPv6. Routing protocols covered include Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Border Gateway Protocol (BGP) and Layer 3 path control. Prerequisite: Computer and Internetworking Technologies 1124 with a grade of C or better, or equivalent or consent of instructor (2 lecture hours, 2 lab hours)

Cisco Certified Network Professional 2

CIT 2242 - 3 Credits

Media, devices, and protocols to build, configure, and troubleshoot a remote access network to interconnect central sites to branch offices and home offices. Includes configuring Digital Subscribe Line (DSL), MultiProtocol Label Switching (MPLS), Virtual Private Network (VPN), Site-to-site VPN, Cisco device hardening, and Cisco Intrusion Detection System (IDS) and Intrusion Prevention System (IPS) systems. Prerequisite: Computer and Internetworking Technologies 1124 with a grade of C or better, or equivalent or consent of instructor (2 lecture hours, 2 lab hours)

Cisco Certifd Netwk Professional-SWITCH

CIT 2243 - 3 Credits

Basic and multi-layer switching configuration. Includes Spanning Tree Protocol (STP), Virtual Local Area Networks (VLANs), secure integration of VLANs, inter-VLAN routing, Hot-Standby Routing Protocol (HSRP), Virtual Router Redundancy Protocol (VRRP), wireless LANs, voice over internet protocol (VOIP), and security. Prerequisite: Computer and Internetworking Technologies 1124 with a grade of C or better, or equivalent or consent of instructor (2 lecture hours, 2 lab hours)

Cisco Certfd Netwk Professional-TSHOOT

CIT 2244 - 3 Credits

Methods and tools used to troubleshoot the following: Internet Protocol (IP) communication problems, IPv6 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. Prerequisite: Computer and Internetworking Technologies 2241 and Computer and Internetworking Technologies 2243 with a grade of C or better, or equivalent or consent of instructor (2 lecture hours, 2 lab hours)

CCNA Security

CIT 2251 - 3 Credits

Provides the knowledge and hands-on skills required to install, troubleshoot, and monitor Cisco security network devices. Students who complete this course will be prepared to sit for the Cisco Certified Networking Associate (CCNA) Security Certification exam which is a stepping stone for job roles such as network security specialist and network security administrator. CCNA Security certification is a prerequisite for becoming a Cisco Certified Security Professional (CCSP). Prerequisite: Computer and Internetworking Technologies 1122 with a grade of C or better or equivalent or CCNA Certification or consent of instructor (2 lecture hours, 2 lab hours)

Computer & Internetworking Technologies

CCNA Voice

CIT 2410 - 3 Credits

Basic operation and components involved in Voice Over Internet Protocol (VOIP). Configuration of IP phone, Cisco CallManager Express (CME) and Cisco Unity Express (CUE) solutions are covered. Prerequisite: Computer and Internetworking Technologies 1122 with a grade of C or better, or equivalent or consent of instructor (2 lecture hours, 2 lab hours)

Cisco Voice Over IP

CIT 2411 - 3 Credits

Basic operation and components involved in Voice Over Internet Protocol (VOIP); integrate basic IP telephony network into existing telephony network; configure router to perform basic VOIP call; implementation of dial plan; configuration of gateway and gatekeeper. Prerequisite: Computer and Internetworking Technologies 1124 with a grade of C or better or equivalent (2 lecture hours, 2 lab hours)

Quality of Service

CIT 2412 - 3 Credits

Prepares students for the Cisco Certified Voice Professional qualifying exam. Topics covered include: Quality of service (QOS), classification and marking, queuing, traffic shaping and policing, congestion avoidance, link efficiency, modular QOS command line interface, and QOS best practices. Prerequisite: Computer and Internetworking Technologies 1124 with a grade of C or better or equivalent or consent of instructor (2 lecture hours, 2 lab hours)

Ethical Hacking

CIT 2640 - 3 Credits

Introduces network security specialists to various 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. Prerequisite: Computer and Internetworking Technologies 1124 or Computer and Internetworking Technologies 1640 with a grade of C or better, or equivalent or consent of instructor (3 lecture hours)

Computer Forensics I

CIT 2651 - 3 Credits

Focuses on the 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. Prerequisite: Computer and Internetworking Technologies 1111 and Computer and Internetworking Technologies 1112 with a grade of C or better or equivalent or consent of instructor (2 lecture hours, 2 lab hours)

Computer Forensics II

CIT 2652 - 3 Credits

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

Capstone: Computer Network Integration

CIT 2710 - 3 Credits

Capstone course assesses student competency and hands-on skills learned in Computer and Internetworking Technologies (CIT). Students focus on the integration of computer networks and produce a network portfolio. It is recommended that students take the capstone course in their last semester. Prerequisite: Computer and Internetworking Technology 1640 with a grade of C or better, or equivalent and Computer and Internetworking Technologies 2251 with a grade of C or better, or equivalent or consent of instructor. (2 lecture hours, 2 lab hours)

Experimental/Pilot Class

CIT 2840 - 1-6 Credits

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. Prerequisite: Consent of instructor is required (6 lecture hours, 12 lab hours)

Internship (Career & Technical Ed)yCoop Ed/Internship Occup

CIT 2860 - 1-4 Credits

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.

Prerequisite: 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 Associate Dean from the academic discipline where the student is planning to earn credit.

Internship Advanced (Career & Tech Ed)

CIT 2865 - 1-4 Credits

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. Prerequisite: 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 Associate Dean from the academic discipline where the student is planning to earn credit.