Information Technology Systems (ITS)

Courses

ITS 125 Fundamentals of Voice and Data Cabling
Credits: 3
Term: (Currently not offered)
Fundamentals of Voice and Data Cabling is a lecture and hands-on course that focuses on industry standards and techniques for the design and implementation of structured cabling systems. Students will demonstrate competency in the installation and termination of both copper and fiber optic cabling, including the proper use of tools and test equipment. Course assessments are used to show the student's understanding of the course content. This course is designed around the hybrid learning model. All lab experiences will be on campus.

ITS 164 Networking Fundamentals
Credits: 3
Term: (S)
Prerequisite: ITS 280
This course is an introduction to networking fundamentals with both lecture and hands-on activities. Topics include the OSI model and industry standards, network topologies, IP addressing (including subnet masks), and basic network design. Concepts are reinforced with lab activities using equipment in live and simulated environments. CompTIA Network+ certification objectives.

ITS 210 Network Operating System - Desktop
Credits: 3
Term: (S)
Prerequisite: CSCI 105
This course examines the role of operating system software and various user interfaces. The primary focus will be on using a command line interface for file management tasks as well as creating and troubleshooting batch files. File management, troubleshooting, application, Internet and administrative functions in a graphical interface will also be examined. This course maps to the MCSE/MCSA Exam certification.

ITS 215 Network Operating Systems -Directory /Infrastructure
Credits: 4
Term: (F)
Prerequisite: ITS 218
This course provides students with the knowledge and skills that are required to manage accounts and resources, maintain server resources, monitor server performance, and safeguard data in a Microsoft Windows Server environment. Course focuses on Windows Server, including Active Directory.

ITS 218 Network Security
Credits: 3
Term: (S, Su based on sufficient Demand)
Prerequisite: ITS 164 or NTS 206
Security baselines, network infrastructure security, web security, cryptography, operations security, and security management. CompTIA Security+ certification objectives.

ITS 222 Enterprise Security
Credits: 3
Term: (S)
Prerequisite: ITS 218
Examination of general information technology security concepts. Topics include access control, authentication, attack methods, remote access, web security, wireless networks, cryptography, internal infrastructure security, and external attacks. Security procedures, organizational policies, risk management and disaster recovery addressed. CompTia CySA +(Cybersecurity Analyst) certification objectives.

ITS 224 Introduction To Linux
Credits: 4
Term: (S)
Prerequisite: CSCI 105
This course will help the student understand the many complex topics of Linux/Unix based systems and help students master Linux network administration. Students will use various learning tools, hands on projects and case projects to allow students to implement the practices they will be learning. This course will help prepare students to successfully complete the CompTIA Linux + exam.

ITS 245 Computer Forensics
Credits: 3
Term: (F, Su based on sufficient demand)
Prerequisite: ITS 218
This course is an exploration into computer forensics in which a student will be able to use the skills and knowledge acquired and apply that knowledge to computers and mobile forensic concepts in forensic investigations procedures.

ITS 271 Securing Desktop/Mobile Devices
Credits: 4 (3 Lecture, 1 Lab)
Term: (F, Su based on sufficient demand)
Prerequisite OR Corequisite: ITS 215 or Consent of Instructor
Course provides advanced technical information and relevant skills to successfully secure end-user devices, including desktop and laptop systems, tablets, cellular phones, and other portable computing equipment. Building on existing knowledge and skills in the areas of server management, network management, and security, students will gain mastery-level knowledge of security issues and best practices. Course content covers client/server exposures and protections (authentication options, packet signing and encryption of network traffic, appropriate implementation of permissions and rights); malware threats and treatments; transmission choices and precautions (wired, wireless, remote desktop access, virtual private networking (VPN)); cloud computing considerations; and corporate mobile device best practices. Hardening of the operating system and application software is also covered. Course content will focus on business-focused security practices to prepare students for Security+, CISSP, and Security Pro industry certifications. Prerequisite Skills: Course builds upon established skills in security, server management, and network management. Students should be working as a network manager or have completed appropriate skills-based coursework using MS Server & VMware.

ITS 274 Ethical Hacking and Network Defense
Credits: 3
Term: (S)
Prerequisite Or Corequisite: ITS 218 or NTS 206
This course gives students the skills necessary to secure network assets by exploring the mechanisms of ethical hacking.

ITS 277 Software Assurance and File System Internals
Credits: 4
Term: (S, Su based on sufficient demand)
Prerequisite: ITS 215
Course provides advanced technical information and relevant skills to methodically secure software, including operating systems, custom application software, and commercially-available packages. Students will classify application software (including, but not limited to customer-facing, employee/partner, mobile/endpoint, database, and cloud-based), and perform risk analyses and common weakness assessments against these programs. Students will research various commercial, professional, and governmental security organizations and create a personalized repository of security-related checklists, toolkits, reference material, and resources. Students will investigate low-level file system structures such as master file tables, allocation tables, free space tables, file table entries, and metadata fields. Using common file signatures and checksums, students will verify internal content against external and metadata indicators. Students will examine 'hidden' disk space areas, including file, volume, and/or partition slack. Course content will focus on business-focused security practices to prepare students for Security+, CISSP, and Security Pro industry certifications. Prerequisite Skills: Course builds upon established skills in security, server management, and network management. Students should be working as a network manager or have completed appropriate skills-based coursework using MS Server & VMware.

ITS 279 Cloud Systems
Credits: 3
Term: (F)
Prerequisite: CSCI 105
This course will introduce the student to the creation, use, and administration of cloud-based resources. The course will survey cloud terminology and concepts, examine use-cases and models, examine oversight and security concerns, and consider financial implications and governance. The student will engage in creation, use, and administration of cloud services as well as exploration of virtualization resources.

ITS 280 Computer Repair and Maintenance
Credits: 4
Term: (F)
Prerequisite or Corequisite: CSCI 105 or consent of instructor
The primary purpose of this course is to prepare students to troubleshoot and repair microcomputer systems. This goal is achieved through a three-part effort: (1) theory presentation with regular assessment; (2) hands-on operation and exploration in lab experiments; and (3) troubleshooting applications in the lab. Hands-on training includes servicing microcomputers, identification, installation, and configuration of microprocessors, memory, system boards, power supplies, and floppy and disk drives. The emphasis of this course is both the hardware and operating systems for the CompTia A+ Essentials and IT Technician Certification tests.

ITS 289 Professional Certification
Credits: 1
Term: (F, S, Su Based on sufficient demand)
Review objectives of an information technology industry-based professional certification. Certification objectives, preparation strategies, and exam strategies included. Course can be repeated for different industry-based professional certifications.

ITS 291 Special Topics
Credits: 1-9
Term: (Based on sufficient demand)
Prerequisite: NTS 104, ITS 215, and ITS 217, or consent of instructor
This course provides students with supporting knowledge and advanced skills required to set up, configure, use, and support network operating systems. This course also helps prepare the student to meet requirements to become a certified professional. Topics vary and will be determined by industry changes, technological advances, and student interest.

ITS 298 Internship
Credits: 3
Term: (S)
Prerequisite: Sophomore status or consent of instructor
This is the final course that completes the student's curriculum for the Cybersecurity and Network Support and Security AAS degrees. This internship will provide students the ability to acquire firsthand experience by working in a real-world employment environment. Students will write a professional resume and successfully interview for a job. During the internship term, the student will apply knowledge and skills learned in the program to the workplace. The student will operate in a professional and ethical manner to accomplish organization objectives. The student will also meet with the faculty advisor on a regular basis to ensure that the work experience encapsulates the majority of the program outcomes. The student will maintain a work log describing work experiences and will be awarded 1 credit hour for every 45 hours of work, as verified by their employer and through documented work descriptions.

ITS 299 Capstone
Credits: 3
Term: (S)
Prerequisite: Sophomore status or consent of instructor
This is the final course that completes the student's curriculum for the Computer Information Technology degrees. Students will pull together what they have learned in their previous classes and demonstrate their capabilities. The course provides students with the experience in training and supporting end users, techniques for developing and delivering training modules, and strategies for providing on-going technical support. Emphasis is on problem solving, such as debugging, troubleshooting, and interaction with users. Students will acquire firsthand experience and study interviewing techniques including preparation of an appropriate resume, personal letterhead, and appropriate methods used for contacting potential employers, personal dress, and attitudes relating to the interview presentation process.