# INFORMATION TECHNOLOGY NETWORKING (ITN)

**ITN 103. Administration of Networked Services. (3 Credits)**
Instruction focuses on the installation, configuration, and management of local area networked servers. Topics covered include support for local area networked devices, system services, and deployment of networked operating systems. This course can include any version of Windows or Linux Server Platforms. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week.

**ITN 106. Microcomputer Operating Systems. (3 Credits)**
Teaches use of operating system utilities and multiple-level directory structures, creation of batch files, and configuration of microcomputer environments. May include a study of graphical user interfaces. Lecture 3 hours per week. Total 3 hours per week.

**ITN 107. Personal Computer Hardware and Troubleshooting. (3 Credits)**
Includes specially designed instruction to give a student a basic knowledge of hardware and software configurations. Includes the installation of various peripheral devices as well as basic system hardware components. Lecture 3 hours per week. Total 3 hours per week.

**ITN 170. Linux System Administration. (3 Credits)**
Focuses instruction on the installation, configuration and administration of the Linux operating system and emphasizes the use of Linux as a network client and workstation. Lecture 3 hours per week. Total 3 hours per week.

**ITN 171. Unix 1. (3 Credits)**
Provides an introduction to UNIX operating systems. Teaches login procedures, file creation, UNIX file structure, input/output control, and the UNIX shell. Lecture 3 hours per week. Total 3 hours per week.

**ITN 208. Protocols and Communications TCP/IP. (4 Credits)**
Centers on providing an understanding of the TCP/IP suite and the details of its implementation. The details of implementation are treated by discussing IP addressing, the structure of frames and protocol headers that enable communication between two computers. Discusses IP routing, tunneling, SNMP, and security. Lecture 4 hours per week. Total 4 hours per week.

**ITN 213. Information Storage and Management. (3 Credits)**
Focuses on advanced storage systems, protocol, and architectures including Storage Area Networks (SAN), Network Attached Storage (NAS), Fibre Channel Networks, Internet Protocol SANs (IPSAN), iSCSI, and Content Addressable Storage (CAS). Lecture 3 hours per week. Total 3 hours per week.

**ITN 254. Virtual Infrastructure: Installation and Configuration. (4 Credits)**
Explores concepts and capabilities of virtual architecture with a focus on the installation, configuration, and management of a virtual infrastructure, and Virtual Center. Covers fundamentals of virtual network design and implementation, fundamentals of storage area networks, virtual switching, virtual system management, and engineering for high availability. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

**ITN 257. Cloud Computing: Infrastructure and Services. (3 Credits)**
Focuses on cloud infrastructure, deployment, security models, and the key considerations in migrating to cloud computing. Covers the technologies and processes required to build traditional, virtualized, and cloud data center environments, including computation, storage, networking, desktop and application virtualization, business continuity, security, and management. Lecture 3 hours per week. Total 3 hours per week.

**ITN 260. Network Security Basics. (3 Credits)**
Provides instruction in the basics of network security in depth. Includes security objectives, security architecture, security models and security layers; risk management, network security policy, and security training. Includes the five security keys, confidentiality integrity, availability, accountability and auditability. Lecture 3 hours per week. Total 3 hours per week.

**ITN 261. Network Attacks, Computer Crime & Hacking. (3 Credits)**
Encompasses in-depth exploration of various methods for attacking and defending a network. Explores network security concepts from the viewpoint of hackers and their attack methodologies. Includes topics about hackers, attacks, Intrusion Detection Systems (IDS), malicious code, computer crime and industrial espionage. Lecture 3 hours per week. Total 3 hours per week. Prerequisite: ITN 260 or instructor permission.

**ITN 262. Network Communication, Security and Authentication. (3 Credits)**
Covers an in-depth exploration of various communication protocols with a concentration on TCP/IP. Explores communication protocols from the point of view of the hacker in order to highlight protocol weaknesses. Includes Internet architecture, routing, addressing, topology, fragmentation and protocol analysis, and the use of various utilities to explore TCP/IP. Lecture 3 hours per week. Total 3 hours per week. Prerequisite: ITN 260 or instructor permission.

**ITN 263. Internet/Intranet Firewalls and E-Commerce Security. (3 Credits)**
Gives an in-depth exploration of firewall, Web security, and e-commerce security. Explores firewall concepts, types, topology and the firewall's relationship to the TCP/IP protocol. Includes client/server architecture, the Web server, HTML and HTTP in relation to Web Security, and digital certification, D.509, and public key infrastructure (PKI). Lecture 3 hours per week. Total 3 hours per week. Prerequisite: ITN 260 or instructor permission.

**ITN 276. Computer Forensics I. (3 Credits)**
Teaches computer forensic investigation techniques for collecting computer-related evidence at the physical layer from a variety of digital media (hard drives, compact flash and PDAs) and performing analysis at the file system layer. Lecture 3 hours per week. Total 3 hours per week. Prerequisite: ITN 106, ITN 107. Co-requisite: ITN 260.