Introduction to Networking 2023-2024 Catal

[ARCHIVED CATALOG]

NETI 104 - Introduction to Networking

PREREQUISITES: Demonstrated readiness for college-level English and Demonstrated readiness in TECH, QUANT, or STEM Math Path Ready
PROGRAM: Network Infrastructure
CREDIT HOURS MIN: 3
LECTURE HOURS MIN: 3
DATE OF LAST REVISION: N/A

The course is intended to provide students with an understanding of fundamental concepts in networking. All layers of the OSI and TCP/IP Models are examined to illustrate concepts and to provide insight into data communications, networking, and the Internet. Students are introduced to the principles and concepts of computer networking, covering 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. Students will be able to troubleshoot routers and switches and resolve common issues.

MAJOR COURSE LEARNING OBJECTIVES: Upon successful completion of this course the student will be expected to:

1. Define the ISO OSI and TCP/IP network models, identifying applicable layers and their appropriate devices, protocols, services, and applications.
2. Explain the configuration, characterization, characteristics, and application of network topologies, types, and technologies.
3. Examine cloud computing concepts, purposes, and technologies.
4. Implement network services such as DNS and DHCP.
5. Determine the appropriate selection, cabling and/or wireless connection(s), and basic configuration solution(s) for applicable network implementations.
6. Design IPv4 and IPv6 addressing schemes. Assess appropriate documentation, diagrams, business continuity, and disaster recovery concepts for a given scenario or scenarios.
7. Identify appropriate network operations components such as use policies, best practices, remote access methods, scanning, monitoring, and patching.
8. Assess appropriate devices, authentication and access controls, and detection and mitigation techniques to provide adequate network security under various conditions.
9. Given a scenario, provide appropriate network troubleshooting and setup using industry standard tools for wired and wireless network devices and services.

COURSE CONTENT: Topical areas of study include -

- Network routing and switching
- Network security
- Network transmission methods
- Network software and support systems
- Mobile and wireless communications
- Network design and management
- Sockets, ports, and protocols

Course Addendum - Syllabus (Click to expand)