



Networking Technology (Online)

What is a Network?

- Defining the Network
- Network Classifications
- Network Topology
- Network Architecture
- Network Standards and Organizations

What is Network? Assessment

Designing a Network

- Needs Analysis
- Physical and Logical Design
- Assuring Security
- Assuring Quality
- Implementation

Designing a Network Assessment

How Data is Encoded and Transported

- Encoding
- Bandwidth
- Baseband and Broadband
- Simplex, Half-Duplex, Duplex
- The OSI Model

How Data is Encoded and Transported Assessment

Networking Hardware and Software

- Networking Components
- Networking Operations Systems
- Servers
- Web Servers and Services
- External Storage Systems

Networking Hardware and Software Assessment

The Physical Layer

- Physical Transmission Media
- Common Transmission Media Problems
- Long Distance Communication Media

Physical Layer Assessment



The Data Link Layer

- Ethernet
- VLANs
- AV Data Link Protocols
- Data Link Layer Assessment**

Network Addressing

- Network Layer Protocols
- IP Addresses
- Types of IP Addresses
- IPv4 Subnetting and Supernetting
- IPv6 Subnetting
- IP Address Assignment
- Naming Services
- Network Addressing Assessment**

IP Data Transmission

- Routing Protocols
- Transport Layer Protocols
- The Upper Layers
- IP Data Transmission Assessment**

Network Security

- Common Network Risks
- Security Tools
- System Backups
- User Authentication
- Secure Transmission Protocols
- Virtual Private Networks
- Wireless Security
- Network Maintenance
- Network Security Assessment**

Troubleshooting Networked Systems

- Troubleshooting Methodology
- Network Infrastructure Troubleshooting Tools
- Troubleshooting with TCP/IP Utilities
- Troubleshooting Common Network Problems
- Troubleshooting Networked Systems Assessment**