Networking Technology

What is a Network?
- Defining the Modern Network
- Network Classifications
- Network Topology
- Network Architecture
- Network Standards and Organizations

Designing a Network
- Needs Analysis
- Physical and Logical Design
- Assuring Security
- Assuring Quality
- Implementation

How Data is Encoded and Transported
- Encoding
- Bandwidth
- Baseband and Broadband
- Data Flow
- The OSI Model

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

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

The Data Link Layer
- Ethernet
- VLANs
- AV Data Link Protocols
Network Addressing
   Network Layer Protocols
   IP Addresses
   Types of IP Addresses
   IPv4 Subnetting and Supernetting
   IPv6 Subnetting
   IP Address Assignment
   Naming Services

IP Data Transmission
   Routing Protocols
   Transport Layer Protocols
   The Upper Layers

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

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