Course duration

- 5 days

Course Benefits

- Identify basic network theory concepts and major network communications methods.
- Describe bounded network media.
- Describe unbounded network media.
- Identify the major types of network implementations.
- Identify TCP/IP addressing and data delivery methods.
- Analyze routing and switching technologies.
- Identify the components of a TCP/IP implementation.
- Analyze network security.
- Implement network security.
- Identify the components of a WAN implementation.
- Identify the components used in cloud computing and virtualization.
- Identify the components of a remote network implementation.
- Manage networks.
- Troubleshoot network issues.

Available Delivery Methods

Public Class
Public expert-led online training from the convenience of your home, office or anywhere with an internet connection. Guaranteed to run .

Private Class
Private classes are delivered for groups at your offices or a location of your choice.

Course Outline

1. Network Theory
    1. Network Types
    2. Network Standards and the OSI Model
    3. Data Transmission Methods
2. Bounded Network Media
    1. Copper Media
    2. Fiber Optic Media

    3. Bounded Network Media Installation
3. Unbounded Network Media
    1. Wireless Networking
    2. Wireless Network Devices and Components
    3. Implement Wireless Technology
    4. Internet of Things
4. Network Implementations
    1. Physical Network Topologies
    2. Logical Network Topologies
    3. Ethernet Networks
    4. Network Devices
5. TCP/IP Addressing and Data Delivery
    1. The TCP/IP Protocol Suite
    2. IPv4 Addressing
    3. Default IP Addressing Schemes
    4. Create Custom IP Addressing Schemes
    5. IPv6 Addressing
6. Routing and Switching
    1. Switching
    2. Network Packet Routing
    3. Static and Dynamic IP Routing
    4. VLANs
7. TCP/IP Implementation
    1. Configure IP Addresses
    2. Naming Services
    3. TCP/IP Utilities
    4. Common TCP/IP Protocols
8. Network Security Analysis
    1. Introduction to Network Security
    2. Network Security Policies
    3. Physical Security
    4. Common Network Attacks
9. Network Security Implementation
    1. Authentication
    2. Access Control
    3. Port, Service, and Protocol Security
    4. Wireless Network Security
    5. Patches and Updates
    6. Mitigation Techniques
10. WAN Infrastructure
    1. WAN Basics
    2. WAN Connectivity Methods
    3. WAN Transmission Technologies
    4. VoIP
11. Cloud and Virtualization Techniques
    1. Virtualization Technologies
    2. Network Storage Technologies

    3. Cloud Computing
12. Remote Networking
    1. Remote Network Architectures
    2. Remote Access Network Implementations
    3. Virtual Private Networking
13. Network Management
    1. Monitor Networks
    2. Document the Network
    3. Establish Baselines
    4. Optimize Network Performance
    5. Ensure Business Continuity
14. Troubleshooting Network Issues
    1. Network Troubleshooting Methodology
    2. Network Troubleshooting Tools
    3. Troubleshoot Wired Connectivity and Performance Issues
    4. Troubleshoot Wireless Connectivity and Performance Issues
    5. Troubleshoot Network Service Issues

Class Materials

Each student will receive a comprehensive set of materials, including course notes and all the class examples.

Class Prerequisites

Experience in the following *is required* for this CompTIA class:

- Basic Windows end-user computer skills.

Experience in the following *would be useful* for this CompTIA class:

- Networking experience is helpful but not mandatory; A+ certification or equivalent skills and knowledge is helpful but not mandatory.

Prerequisite Courses

Courses that can help you meet these prerequisites:

- CompTIA A+ Certification Training