

Network + Course Summary

Description

Students will identify and describe all the major networking technologies, systems, skills, and tools in use in modern PC-based computer networks, and learn information and skills that will be helpful as you prepare for the CompTIA Network+ certification examination, 2005 objectives (exam number N10-003).

Objectives

At the end of this course, students will be able to:

- Identify the basic components of network theory.
- Identify the major network communications methods.
- Identify network data delivery methods.
- List and describe network media and hardware components.
- Identify the major types of network implementations.
- Identify the components of a TCP/IP network implementation.
- Identify the major services deployed on TCP/IP networks.
- Identify characteristics of a variety of network protocols.
- Identify the components of a LAN implementation.
- Identify the components of a WAN implementation.
- Identify major issues and technologies in network security.
- Identify the components of a remote network implementation.
- Identify major issues and technologies in disaster recovery.
- Identify major data storage technologies and implementations.
- Identify the primary network operating systems.
- Identify major issues, models, tools, and techniques in network troubleshooting.

Topics

- Network Theory
- Network Communications Methods
- Network Data Delivery
- Network Media and Hardware
- Network Implementations
- Networking with TCP/IP
- TCP/IP Services
- Other Network Protocols
- Local Area Network (LAN) Infrastructure
- Wide Area Network (WAN) Infrastructure
- Network Security
- Remote Networking
- Disaster Recovery
- Network Data Storage
- Network Operating Systems
- Network Troubleshooting

Audience

This course is intended for entry-level computer support professionals with basic knowledge of computer hardware, software, and operating systems, who wish to increase their knowledge and understanding of networking concepts and skills to prepare for a career in network support or administration, or to prepare for the CompTIA Network+ certification, 2005 objectives (exam number N10-003).

Prerequisites

An introductory course in a Windows operating system, or equivalent skills and knowledge, is required. Students can take any one of the following Element K courses: Windows 98: Introduction, Windows Millennium Edition: Introduction, Windows 2000: Introduction, or Windows XP: Introduction.

Duration

Five days

Network + Course Outline

- I. Network Theory**
 - A. Networking Terminology
 - B. Network Building Blocks
 - C. Standard Network Models
 - D. Network Topologies
 - E. Network Categories
- II. Network Communications Methods**
 - A. Transmission Methods
 - B. Media Access Methods
 - C. Signaling Methods
- III. Network Data Delivery**
 - A. Data Addressing and Delivery
 - B. Network Connection Mechanisms
 - C. Reliable Delivery Techniques
- IV. Network Media and Hardware**
 - A. Bounded Network Media
 - B. Unbounded Network Media
 - C. Noise Control
 - D. Network Connectivity Devices
- V. Network Implementations**
 - A. The OSI Model
 - B. Client Network Resource Access
 - C. Ethernet Networks
 - D. Token Ring Networks
 - E. Fiber Distributed Data Interface (FDDI) Networks
 - F. Wireless Technologies and Standards
- VI. Networking with TCP/IP**
 - A. Families of Protocols
 - B. The TCP/IP Protocol
 - C. Default IP Addresses
 - D. Custom IP Addresses
 - E. The TCP/IP Protocol Suite
- VII. TCP/IP Services**
 - A. IP Address Assignment Methods
 - B. Host Name Resolution
 - C. NetBIOS Name Resolution
 - D. TCP/IP Utilities
 - E. TCP/IP Upper-Layer Services
 - F. TCP/IP Interoperability Services
- VIII. Other Network Protocols**
 - A. The NetBEUI Protocol
 - B. The IPX/SPX Protocol
 - C. The AppleTalk Protocol
 - D. The IP Version 6 (IPv6) Protocol
- IX. Local Area Network (LAN) Infrastructure**
 - A. Bridges and Switches
 - B. IP Routing Topology
 - C. Static IP Routing
 - D. Dynamic IP Routing
 - E. Controlling Data Movement with Filters and VLANs
- X. Wide Area Network (WAN) Infrastructure**
 - A. WAN Switching Technologies
 - B. WAN Transmission Technologies
 - C. WAN Connectivity Methods
 - D. Voice over Data Systems
- XI. Network Security**
 - A. Network Threats
 - B. Virus Protection
 - C. Local Security
 - D. Network Authentication Methods
 - E. Data Encryption
 - F. Internet Security
- XII. Remote Networking**
 - A. Remote Network Architectures
 - B. Terminal Services Implementations
 - C. Remote Access Networking Implementations
 - D. Virtual Private Networking
- XIII. Disaster Recovery**
 - A. Planning for Disaster Recovery
 - B. Data Backup
 - C. Fault Tolerance Methods

**Network +
Course Outline (cont'd)**

XIV. Network Data Storage

- A. Enterprise Data Storage Techniques
- B. Clustering
- C. Network-Attached Storage (NAS)
- D. Storage Area Network (SAN) Implementations
- E. Network Operating Systems
- F. Microsoft Operating Systems
- G. Novell NetWare
- H. UNIX and Linux Operating Systems
- I. Macintosh Networking

XV. Network Troubleshooting

- A. Troubleshooting Models
- B. TCP/IP Troubleshooting Utilities
- C. Hardware Troubleshooting Tools
- D. TSystem Monitoring Tools
- E. Network Baselineing