CompTIA Network+

Course Summary

Description

Students will describe the major networking technologies, systems, skills, and tools in use in modern networks.

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

- Identify the basic network theory concepts.
- Identify the major network communications methods.
- Describe network media and hardware components.
- Identify the major types of network implementations.
- Identify the components of a TCP/IP network implementation.
- Identify TCP/IP addressing and data delivery methods.
- Identify the major services deployed on TCP/IP networks.
- Identify the components of a LAN implementation.
- Identify the infrastructure of a WAN implementation.
- Identify the components of a remote network implementation.
- Identify the major issues and methods to secure systems on a network.
- Identify the major issues and technologies in network security.
- Identify network security threats and attacks.
- Identify the tools, methods, and techniques used in managing a network.
- Describe troubleshooting of issues on a network.

Topics

- Network Theory
- Network Communications Methods
- Network Media and Hardware
- Networking Models
- TCP/IP Addressing and Data Delivery
- TCP/IP Services
- TCP/IP Interoperability Services
- LAN Infrastructure
- WAN Infrastructure
- Remote Networking
- System Security
- Network Security
- Network Security Threats and Attacks
- Network Management
- Network Troubleshooting

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... to Your Success!"

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Course Summary

Audience

This course is intended for entry-level computer support professionals with a basic knowledge of computer hardware, software, and operating systems to prepare for the CompTIA Network+ (Exam N10-005), or who wish to increase their knowledge and understanding of networking concepts and acquire the required skills to prepare for a career in network support or administration. A typical student taking up the CompTIA Network+ course should have a minimum of nine months or more of professional computer support experience as a PC or help desk technician. Networking experience is helpful but not mandatory; A+ certification or equivalent skills and knowledge is helpful but not mandatory.

Prerequisites

To ensure your success, you will need basic Windows end-user computer skills. To meet this prerequisite, you can take any one or more of the following ProTech courses, or have equivalent experience:

- Introduction to Personal Computers: Using Windows XP
- Windows XP Professional: An Introduction
- Introduction to Personal Computers: Using Windows 7
- Microsoft Windows 7: Level 1
- Microsoft Windows 7: Level 2

In addition, we highly recommend that you hold the CompTIA A+ certification, or have equivalent skills and knowledge. You may want to take the following Element K course: CompTIA A+ Certification: A Comprehensive Approach for All 2009 Exam Objectives ((Windows 7)) (Comprehensive)

Duration

Five days

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Course Outline (cont'd)

I. Network Theory
- A. Networking Terminology
- B. Network Categories
- C. Standard Network Models
- D. Physical Network Topologies
- E. Logical Network Topologies

II. Network Communications Methods
- A. Data Transmission Methods
- B. Media Access Methods
- C. Signaling Methods

III. Network Media and Hardware
- A. Bounded Network Media
- B. Unbounded Network Media
- C. Noise Control
- D. Network Connectivity Devices

IV. Network Implementations
- A. Ethernet Networks
- B. Wireless Networks

V. Networking Models
- A. The OSI Model
- B. The TCP/IP Model

VI. TCP/IP Addressing and Data Delivery
- A. The TCP/IP Protocol Suite
- B. IP Addressing
- C. Default IP Addressing Schemes
- D. Create Custom IP Addressing Schemes
- E. Implement IPv6 Addresses
- F. Delivery Techniques

VII. TCP/IP Services
- A. Assign IP Addresses
- B. Domain Naming Services
- C. TCP/IP Commands
- D. Common TCP/IP Protocols
- E. TCP/IP Interoperability Services

VIII. LAN Infrastructure
- A. Switching
- B. Enable Static Routing
- C. Implement Dynamic IP Routing
- D. Virtual LANs
- E. Plan a SOHO Network

IX. WAN Infrastructure
- A. WAN Transmission Technologies
- B. WAN Connectivity Methods
- C. Voice over Data Transmission

X. Remote Networking
- A. Remote Network Architectures
- B. Remote Access Networking Implementations
- C. Virtual Private Networking
- D. VPN Protocols

XI. System Security
- A. Computer Security Basics
- B. System Security Tools
- C. Authentication Methods
- D. Encryption Methods

XII. Network Security
- A. Network Perimeter Security
- B. Intrusion Detection and Prevention
- C. Protect Network Traffic Using IPSec

XIII. Network Security Threats and Attacks
- A. Network-Based Security Threats and Attacks
- B. Apply Threat Mitigation Techniques
- C. Educate Users

XIV. Network Management
- A. Network Monitoring
- B. Configuration Management Documentation
- C. Network Performance Optimization

XV. Network Troubleshooting
- A. Network Troubleshooting Models
- B. Network Troubleshooting Utilities
- C. Hardware Troubleshooting Tools
- D. Common Connectivity Issues

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