

# CompTIA Network+® (Exam N10-005)

Course length: 5.0 day(s)

## Certification

The CompTIA® Network+® (Exam N10-005) course is designed to help you prepare for the N10-005 exam. Taking this course and using this student guide will help you prepare for the certification. You should also refer to the exam objectives to see how they map to the course content.

## Course Description

**Course Objective:** You will describe the major networking technologies, systems, skills, and tools in use in modern networks.

**Target Student:** 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+® (Exam N10-005) 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 courses, or have equivalent experience:

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 course: CompTIA® A+® Certification: A Comprehensive Approach for All 2009 Exam Objectives (Windows® 7)

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

## Performance-Based Objectives

Upon successful completion 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.

## **Course Content**

### **Lesson 1: Network Theory**

- Topic 1A: Networking Terminology
- Topic 1B: Network Categories
- Topic 1C: Standard Network Models
- Topic 1D: Physical Network Topologies
- Topic 1E: Logical Network Topologies

### **Lesson 2: Network Communications Methods**

- Topic 2A: Data Transmission Methods
- Topic 2B: Media Access Methods
- Topic 2C: Signaling Methods

### **Lesson 3: Network Media and Hardware**

- Topic 3A: Bounded Network Media
- Topic 3B: Unbounded Network Media
- Topic 3C: Noise Control
- Topic 3D: Network Connectivity Devices

### **Lesson 4: Network Implementations**

- Topic 4A: Ethernet Networks
- Topic 4B: Wireless Networks

### **Lesson 5: Networking Models**

- Topic 5A: The OSI Model
- Topic 5B: The TCP/IP Model

### **Lesson 6: TCP/IP Addressing and Data Delivery**

- Topic 6A: The TCP/IP Protocol Suite
- Topic 6B: IP Addressing
- Topic 6C: Default IP Addressing Schemes
- Topic 6D: Create Custom IP Addressing Schemes
- Topic 6E: Implement IPv6 Addresses
- Topic 6F: Delivery Techniques

### **Lesson 7: TCP/IP Services**

- Topic 7A: Assign IP Addresses
- Topic 7B: Domain Naming Services
- Topic 7C: TCP/IP Commands
- Topic 7D: Common TCP/IP Protocols
- Topic 7E: TCP/IP Interoperability Services

### **Lesson 8: LAN Infrastructure**

- Topic 8A: Switching
- Topic 8B: Enable Static Routing
- Topic 8C: Implement Dynamic IP Routing
- Topic 8D: Virtual LANs
- Topic 8E: Plan a SOHO Network

### **Lesson 9: WAN Infrastructure**

- Topic 9A: WAN Transmission Technologies
- Topic 9B: WAN Connectivity Methods
- Topic 9C: Voice over Data Transmission

### **Lesson 10: Remote Networking**

- Topic 10A: Remote Network Architectures

Topic 10B: Remote Access Networking Implementations  
Topic 10C: Virtual Private Networking  
Topic 10D: VPN Protocols

**Lesson 11: System Security**

Topic 11A: Computer Security Basics  
Topic 11B: System Security Tools  
Topic 11C: Authentication Methods  
Topic 11D: Encryption Methods

**Lesson 12: Network Security**

Topic 12A: Network Perimeter Security  
Topic 12B: Intrusion Detection and Prevention  
Topic 12C: Protect Network Traffic Using IPSec

**Lesson 13: Network Security Threats and Attacks**

Topic 13A: Network-Based Security Threats and Attacks  
Topic 13B: Apply Threat Mitigation Techniques  
Topic 13C: Educate Users

**Lesson 14: Network Management**

Topic 14A: Network Monitoring  
Topic 14B: Configuration Management Documentation  
Topic 14C: Network Performance Optimization

**Lesson 15: Network Troubleshooting**

Topic 15A: Network Troubleshooting Models  
Topic 15B: Network Troubleshooting Utilities  
Topic 15C: Hardware Troubleshooting Tools  
Topic 15D: Common Connectivity Issues

Appendix A: Mapping Network+ Course Content to the CompTIA Network+ Exam Objectives  
Appendix B: CompTIA Network+ Acronyms  
Appendix C: Network Fault Tolerance Methods  
Appendix D: Disaster Recovery Planning