



CompTIA Network+ - Fundamentals of Networking

Course No. CT-02F 5 Days Instructor-led, Hands-on

Introduction

This five-day, instructor-led 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+ exam.

The course provides network technicians and support staff with the foundation-level skills they need to install, operate, manage, maintain, and troubleshoot a corporate network. This course also meets DoD 8570.1 training requirements.

CompTIA Network+ certification is for networking professionals involved with managing, maintaining, troubleshooting, operating and configuring basic network infrastructure. The exam covers network technologies, installation and configuration, media and topologies, management, and security. Candidate job roles include network administrator, network technician, network installer, help desk technician and IT cable installer.

To achieve Network+ certification you must pass the authorized exam.

It should be noted that a course alone cannot prepare students for any CompTIA exam. It is important that students have the recommended work experience in IT networking prior to taking the exam. For more information on the CompTIA exams, visit www.comptia.org

At Course Completion

Upon successful completion of this course, students will be able to:

- Compare and contrast the use of networking services and applications
- Install and configure network services/applications
- Analyze metrics and reports from monitoring and tracking performance tools
- Use appropriate resources to support configuration management
- Compare and contrast common network vulnerabilities and threats
- Install and configure a basic firewall
- Summarize basic forensic concepts
- Implement network troubleshooting methodology
- Troubleshoot and resolve common copper cable issues
- Troubleshoot and resolve common network issues
- Analyze and determine the correct OSI layer
- Explain the basics of network theory and concepts

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- Summarize safety practices
- Install and configure equipment in the appropriate location using best practices

Prerequisites

A typical student should have nine months or more of professional computer support experience as a PC technician or help desk technician. Network experience is helpful but not required; A+ certification or the equivalent skills and knowledge is helpful but not required.

Course Materials

The student kit includes a book and other necessary materials for this class.

Certification

CompTIA Network+ Certification

CompTIA Network+ validates the knowledge and skills of networking professionals. It is an international, vendor-neutral certification that recognizes a technician's ability to describe the features and functions of networking components and to install, configure and troubleshoot basic networking hardware, protocols and services. Although not a prerequisite, it is recommended that CompTIA Network+ candidates have at least nine months of experience in network support or administration or adequate academic training, along with a CompTIA A+ (IT Technician, Help Desk or Depot Technician) certification.

The demand for skilled network support professionals continues to grow, and CompTIA Network+ is a valuable credential to help start or enhance a networking career. In fact, many IT certifications integrate CompTIA Network+ into their curriculums. Microsoft added CompTIA Network+ into their Microsoft Certified Systems Administrator (MCSA) program, and other corporations such as Cisco and HP also recognize CompTIA Network+ as part of their certification tracks.

You can set up testing directly with Pearson VUE when you're ready and you can arrange to take your exam at ISInc, an authorized Pearson VUE testing center

Beginning January 1, 2011, CompTIA Network+ certification holders are required to renew their credential every three years. Renewal can be achieved two ways:

- Take the most current version of the CompTIA Network+ certification exam or
- Earn continuing education units (CEUs) by participating in qualified activities such as publishing an article or white paper, obtaining another industry certification, or attending a relevant conference or event. The CompTIA Network+ certification renewal requires 30 CEUs per renewal period.

Certifications earned beginning in 2011 will contain the designation "CE" to indicate the certification is subject to the renewal policy.

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If you achieved certification prior to 2011 (the non-CE version), you will retain your certification for life. No renewal is required, although you may choose to or be required to enroll in the continuing education program.

Individuals Affected by the DoD Directive 8570.1

Beginning January 1, 2013, the Department of Defense (DoD) will only recognize CompTIA certifications with the CE designation as approved DoD Information Assurance baseline certifications. If you earned your CompTIA certification on or after January 1, 2011, follow the standard renewal procedures outlined above. If you earned certification prior to 2011, you must enroll in the continuing education program to update your certification to the CE version

Follow-On Course

CompTIA Security+ - Fundamentals of Security

Course Outline

Module 1: Introduction to Networks

This module includes an introduction to what a network is and an overview of the most common physical network topologies you'll find in today's networks.

Module 2: The Open Systems Interconnection Specifications

This module covers the OSI model, what it is, what happens at each of its layers, and how each layer works.

Module 3: Networking Connectors and Wiring Standards

This module covers the various networking media and topologies, plus the cable types and properties used in today's networks

Module 4: The Current Ethernet Specifications

This module covers how a basic Ethernet LAN works and describes and categorizes the different Ethernet specifications

Module 5: Networking Devices

It is important for you to understand all the various devices used in today's networks, and this module will describe how hubs, routers and switches and some other devices work within a network

Module 6: Introduction to the Internet Protocol

This is your introduction to the all-important IP protocol stack

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Module 7: IP Addressing

This module will take up from where Module 6 left off and move into IP addressing. It also contains information about public versus private addressing and DHCP.

Module 8: IP Subnetting, Troubleshooting IP and Introduction to NAT

Beginning where Module 7 ends, we'll be tackling IP subnetting in this module.

Module 9: Introduction to IP Routing

This is an introduction to routing that basically covers what routers do and how they do it. This module, along with Modules 10 and 11, cover routing and switching in much more detail than what is necessary to meet the CompTIA Network+ objectives because this knowledge is so critical to grasp when working with today's networks.

Module 10: Routing Protocols

This module goes into detail describing the protocols that run on routers and that update routing tables to create a working map of the network.

Module 11: Switching and Virtual LANs

This module covers Layer 2 switching, the Spanning Tree Protocol (STP), and virtual LANs.

Module 12: Wireless Networking

Because wireless is so important for both home and business networks today, this module is loaded with all the information you need to be successful at wireless networking at home and work.



- Module 13: Using Statistics and Sensors to Ensure Network Availability**
- Module 14: Organizational Documents and Policies**
- Module 15: High Availability and Disaster Recovery**
- Module 16: Common Security Concepts**
- Module 17: Common Types of Attacks**
- Module 18: Network Hardening Techniques**
- Module 19: Remote Access Security**
- Module 20: Physical Security**
- Module 21: Data Center Architecture and Cloud Concepts**
- Module 22: Ensuring Network Availability**
- Module 23: Cable Connectivity Issues and Tools**
- Module 24: Network Troubleshooting Methodology**
- Module 25: Network Software Tools and Commands**