



Network+ 2009 Certification Training

5 Sessions –
10 Hours of Interactive Training

Network+ is an elite training program that completely and adequately prepares students to become Network+ certified. Students will gain the knowledge and skills necessary to manage, maintain, troubleshoot, install, operate and configure basic network infrastructure, describe networking technologies, and basic design principles. This course will provide students with the ability to effectively learn real-world concepts and skills to help launch or enhance a networking career. This course will prepare you to pass the CompTIA® Network+ certification exam N10-004.

Benefits

- Certification is ranked as one of the most in-demand networking skill in the IT department
- Achieve industry recognition and respect among colleagues and professionals
- Provides a full library of knowledge that can be referenced time and time again

About The Author

Mike Meyers is a dynamic lecturer and leading authority on IT certifications. His A+ Certification Guide (McGraw-Hill) is the world's #1 selling A+ certification text. Meyers, known as the Alphageek to friends and fans, exudes an incredible enthusiasm for high tech. His flair for conceptualizing technical information and providing explanations that make sense is unmatched in the industry. Meyers is president of Total Seminars in Houston.

Session 1

- Section A: Introduction
- Understanding the Network+
 - Network+ Domains
- Section B: Packets
- What is a Network?
 - Network Card
 - Everything is Binary
 - Conceptualizing Packets
 - Conceptualizing MAC Addresses
 - Binary to Hex
 - IPCONFIG
 - IFCONFIG
- Section C: Topologies
- Bus Topology
 - Ring Topology
 - Star Topology
 - Mesh Topology
 - Point-to-Point
 - Point-to-Multipoint
 - Hybrid Topologies
- Section D: Building a Network with OSI
- OSI History
 - Physical Layer
 - Frames
 - Data-Link Layer
 - Network Layer
 - Transport Layer
 - Session Layer
 - Presentation Layer
 - Application Layer
- Section E: Network Cabling Overview
- Network Cabling
 - Coaxial
 - Unshielded Twisted Pair
 - Cat Levels
 - RJ Connectors
 - Cable Fire Ratings
 - Shielded Twisted Pair
 - Fiberoptic
 - Fiber Connectors
 - Understanding Fiber
- Section F: Ethernet Basics
- Understanding Ethernet
 - Ethernet Frame
 - Conceptualizing Ethernet
 - Sending Ethernet Frames
 - Promiscuous Mode
 - Receiving Ethernet Frames
 - CSMA/CD
 - Connecting Hubs
 - Crossover Cable
 - Daisy Chaining Hubs
- Section G: 10Base/100Base Ethernet
- 10Base-T
 - 10Base-FL
 - 10Base Ethernet
 - 100Base-T
 - 100Base Ethernet
 - Media Converter
 - Link Lights

Session 2

- Section A: Modern Ethernet
- Ethernet Switches
 - Switching
 - Spanning Tree Protocol
 - Gigabit Ethernet
 - Backbone
 - 10GbE
 - 10GBase-T
- Section B: Structured Cabling
- Structured Cabling Defined
 - Structured Cabling Terminology
 - Rack Units
 - Wiring Distribution
 - Patch Panel
 - Patch Cables
 - Horizontal Run Demonstration
 - 66 Block
 - Wiring Schematic
 - Physical Network Diagram
- Section C: Structured Cabling Tools
- Cable Making Tools
 - Crimping
 - Punch Tools
 - Testing Tools
 - Continuity
 - Continuity Tester
 - MicroScanner
 - TDRs
 - Multimeter
 - Attenuation
 - Crosstalk
 - Shorts
 - Interference
 - Certifiers
 - Toner Probes
- Section D: Introducing TCP/IP
- Protocol Suite
 - Broadcasting
 - NetBIOS/NetBEUI
 - Logical Network Addressing
 - Routing
 - IP Naming Importance
 - TCP/IP
 - TCP/UDP/ICMP
- Section E: Basic IP Addressing
- IP Addressing Defined
 - Unique Addresses
 - Subnet Mask
 - Network ID
 - Binary vs. Decimal
 - Converting Binary to Decimal
 - Dotted Decimal
 - Converting Decimal to Binary
- Section F: Advanced IP Addressing
- Class Licenses
 - CIDR
 - Configuring IP
 - Ping
 - ARP
 - Mac IP Tools
 - Linux IP Tools

Session 3

- Section A: Subnetting
- Understanding Subnetting
 - Subnet Setup
 - Extending the Subnet
 - Calculating Hosts
 - Determining IP Addresses
 - Determining Network IDs
 - Applying Subnetting
 - Example Subnetting Scenarios
- Section B: DHCP
- Understanding DHCP
 - DHCP Client Side
 - DHCP Server
 - Administering DHCP Server
 - Renewing DHCP Lease
 - APIPA
 - Windows DHCP Server
 - Rogue DHCP Server
- Section C: Network Naming
- Name Resolution
 - Host File
 - DNS
 - DNS Server
 - DNS in Action
 - Reverse Lookup Zones
 - Root Hints
 - Forwarder Servers
 - Nslookup
 - Dig
- Section D: Windows Name Resolution
- WINS
 - SMB/CIFS
 - NetBIOS Commands
- Section E: Introducing TCP/IP Ports
- Ports Defined
 - Netstat
 - TCPView
 - Wireshark
 - Packet Filtering
- Section F: Static Routing
- Routers
 - Router Console Cables
 - Routing Tables
 - Static Routes
 - Route Print
 - Broadcast/Unicast/Multicast
 - Origin of Routing Tables
 - netstat-r
- Section G: Dynamic Routing
- Why Dynamic Routing
 - Dynamic Routing Types
 - Distance Vector
 - RIP
 - Autonomous System
 - BGP
 - OSPF
 - IS-IS
 - Link State
 - Hybrid
 - Trace Route
 - MTR
- Section H: Firewalls
- Private IPs
 - NAT
 - Overloaded NAT (PAT)
 - Static NAT
 - Configuring Access Control
 - Port Filtering
 - Intrusion Detection
 - Common Firewall Features

Network+ 2009 Certification *continued*

Session 4

Section A: Internet Applications Part I

- Identifying DHCP Port
- Identifying DNS Port
- SNMP
- Three Types of SNMP
- Cacti and SNMP
- HTTP and HTTPS
- Web Server Administration
- Telnet
- SSH

Section B: Internet Applications Part II

- FTP
- FTP Client
- Secure FTP
- TFTP
- E-mail and SMTP
- Network Time Protocol
- What to Know

Section C: Encryption

- Understanding Encryption
- Symmetric Encryption
- Asymmetric Keys
- Certificates/PKI

Section D: Authentication

- Authentication Standards
- Point-to-Point Protocol
- PAP and CHAP
- Kerberos
- AAA Tools
- EAP
- 802.1x

Section E: Wireless

- Understanding 802.11
- 802.11 Standards
- Wireless Settings
- ESSID
- Joining a Wireless Network
- Wireless Security
- WEP
- 802.11i
- AES Encryption
- WPA
- Recommended Wireless Security

Section F: Implementing Wireless

- Wireless Access Points
- Access Point Antennas
- Wireless Issues

Section G: Advanced Networking Devices

- Introduction
- Peer-to-Peer
- Multilayer Switch
- Content Switch
- Bandwidth Shaper
- Proxy Server
- VLANs
- Creating a VLAN
- Assigning VLAN Ports
- Route and Trunking
- Dynamic VLAN
- VPNs and Tunnels
- VPN Tunnel Standards
- Connecting VPNs

Session 5

Section A: IPv6

- IPv6 Defined
- IPv6 Addresses
- Link Local Address
- Getting an IPv6 Address
- Configuring IPv6
- IPv6 Tunneling
- Using IPv6

Section B: Remote Connections

- Connectivity History
- Circuit Switching
- Analog to Digital
- DSO
- Digital Cabling
- Testing T1s
- T-Carriers
- SONET
- Packet Switching
- MPLS

Section C: The Last Mile

- The Last Mile
- POTS/PSTN
- Central Office
- Digital to Analog to Digital
- ISDN
- DSL
- DSL Types
- PPPoE
- Cable Modem
- DOCSIS
- Satellite
- Wireless

Section D: Remote Access

- Taking Control
- Remote Access Options
- RRAS
- VNC
- Remote Desktop
- Best Practices

Section E: Network Optimization

- Network Optimization Overview
- Bonding
- Traffic Shapping
- QoS

Section F: Physical Network

- Protection
- Security Considerations
- Physical Security
- Theft
- Power
- HVAC
- Fire
- Hardward Failure

Section G: Maintaining Network Integrity

- Antivirus/Malware
- DoS Attacks
- Man-in-the-Middle
- Rogue Access Points
- Phishing
- Protection Checklist
- Baselines
- Patches/Updates
- Configurations
- Regulations

Section H: The Art of Network Support

- Nine Step Process

Section I: Lab 1: LAN Issues

- Misconfigurations
- NIC Configurations
- Speed/Duplex Issues
- IP Address Issues
- Dynamic vs. Static IP/DNS
- VLAN Issues
- Angry IP Scanner

- Port Monitoring
- Impedance Mismatch
- Logs

Section J: Lab 2: WAN Issues

- Escalatory Problems
- Switching Loops
- Routing Loops
- Broadcast Storms
- Proxy ARP
- IDS Signature Identification

Section K: Lab 3: Wireless Issues

- Interface
- ESSID Mismatch
- Incorrect Encryption
- Incorrect Channel
- Incorrect Frequency