

CompTIA Network+ (Exam N10-007) Certification Series!

Overview: The CompTIA Network+ (N10-007) course series will introduce students to networking, including network standards, network communications, working with TCP/IP, network devices, wide area networks, remote access, network security, building highly available and scalable networks, and maintenance, monitoring, and troubleshooting.

Course Modules:

Module 01 -Introduction to Networking

(Duration: 1h 25m)

1. Workbook (Pdf)
2. Topic A: Networking Fundamentals
3. What is a Network?
4. Network Building Blocks
5. Types of Networks
6. Host Requirements
7. Numbering Systems
8. Demo – Working with Numbering Systems
9. Communication Types
10. Communication Concepts
11. Other Communication Methods
12. Topic B: Network Models and Topologies
13. Networking Models

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14. Workgroup vs. Domain
15. Network Topologies
16. Physical Bus
17. Physical Star
18. Physical Ring
19. Physical Mesh
20. Demo – Identifying Network Topology
21. Logical Topologies
22. Wireless Topologies
23. Topic C: Network Components and Services
24. Network Components and Services
25. Topic D: Becoming a Network Professional
26. Technical Challenges
27. Knowledge Specialization
28. Developing Soft Skills
29. Achieving the Certification
30. Planning for Certification
31. Chapter 01 Review
32. **Review Quiz (Number of attempts allowed: Unlimited)**

Module 02- Network Standards

(Duration: 40m)

1. Workbook (Pdf)
2. Topic A: Introducing Networking Standards
3. What is a Standard?
4. Why Use Standards?
5. Standards Organizations
6. Topic B: Open Interconnection Systems / Reference Model
7. What is OSI/RM
8. Upper Layers
9. Lower Layers
10. Topic C: IEEE Network Standards
11. IEEE Networking Standards

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12. Ethernet
13. Ethernet Frames
14. MAC Addresses
15. Access Methods
16. 10Base Standards
17. Demo – Ethernet Standards
18. Chapter 02 Review
19. Review Quiz (Number of attempts allowed: Unlimited)

Module 03 -Network Communications

(Duration: 1h 42m)

1. Workbook (Pdf)
2. Topic A: Fundamentals of Network Transmission
3. Transmission Methods
4. Network Performance Factors
5. Serial vs. Parallel
6. Baseband vs. Broadband
7. Data Access Methods
8. Communication Domains
9. Data Access Methods (Cont.)
10. Digital Signals
11. Units of Measurement
12. Topic B: Copper Media
13. Transmission Media
14. Twisted Pair Cabling
15. Cable Media Categories
16. Twisted Pair Connectors
17. Copper Media Types
18. Wiring Differences
19. Coaxial Cabling
20. Demo – Media Types
21. Topic C: Optical Media
22. Fiber Optic Cabling

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23. Connection Options
24. Fiber Optic Connectors
25. Demo
26. – Optical Cables and Connectors
27. Topic D: Specialty Cables and Connectors
28. Specialty Connectors and Cabling
29. Media Converters
30. Topic E: LAN Infrastructure Wiring
31. Demarcation Point
32. Other LAN Components
33. Wiring Individual Workstations
34. Connecting Cables
35. Punchdown Blocks
36. Topic F: Wireless Networking
37. Introduction to Wireless LANs
38. Wireless Networking Fundamentals
39. Types of Wireless
40. Wireless Networking Components
41. Demo
42. – Configuring an Access Point
43. Wireless Modes
44. Wireless Devices
45. Wireless Networking Standards
46. 802.11 Standards
47. Enhancing Wireless Performance
48. Wired Equivalent Privacy
49. Wi
50. -Fi Protected Access
51. 802.1x
52. Demo
53. – Examining Wireless Security
54. Planning Wireless Networks
55. Choosing Antennas
56. Antenna Types
57. Wireless Channels
58. Site Surveys
59. Other Considerations
60. Chapter 03 Review
61. **Review Quiz (Number of attempts allowed: Unlimited)**

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Module 04 -Working with TCP/IP

(Duration: 3h 4m)

1. Workbook (Pdf)
2. Topic A: Understanding TCP/IP
3. Overview of TCP/IP
4. TCP/IP Layers
5. Core Protocols
6. Transport Protocols
7. Transmission Control Protocol
8. User Datagram Protocol
9. What is a Socket?
10. Internet Layer
11. Core Internet Layer Protocols
12. IP Datagrams
13. Application Layer
14. Application Layer Protocols
15. Well Known Ports
16. Topic B: Working with IPv4 Addresses
17. Introduction to IP Addresses
18. Subnet Masks
19. Demo – Working with Binary IP Addresses
20. IPv4 Address Rules
21. Valid Masks
22. Default Gateway
23. Demo – Configuring IP Addresses
24. Address Categories
25. Public vs. Private Addresses
26. Classful Addressing
27. Classless Addressing
28. Demo – CIDR Notation
29. Create IPv4 Subnets
30. Simple Subnetting
31. Complex Subnetting

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32. Demo – Creating Subnets
33. Topic C: Working With IPv6 Addresses
34. Introduction to IPv6
35. IPv6 Advantages
36. IPv6 Addresses
37. IPv6 Addressing
38. Global Unicast
39. Unique Local Unicast
40. Link Local Address
41. Special Addresses
42. Autoconfiguration in IPv6
43. Demo – Viewing and Configuring IPV6
44. Topic D: Assigning Addresses with DHCP
45. Introducing DHCP
46. DHCP Leases
47. Lease Renewal
48. DHCP Server Placement
49. DHCP Implementations
50. DHCP Servers
51. Topic E: Resolving Names Using DNS
52. What is Name Resolution
53. Types of Names
54. Introduction to DNS
55. DNS Components
56. Resource Records
57. DNS Zones and Domains
58. Name Resolution Process
59. Types of Queries
60. Chapter 04 Review
61. **Review Quiz (Number of attempts allowed: Unlimited)**

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Module 05 -Network Devices

(Duration: 1h 43m)

1. Workbook (Pdf)
2. Topic A: Introduction to Network Devices
3. Common Network Devices
4. Device Capabilities
5. OSI / RM Layers and Devices
6. Topic B: Physical Layer Devices
7. Introduction to Physical Devices
8. Network Interface Cards
9. Repeaters
10. Repeater Types
11. Hubs
12. Topic C: Data Link Layer Devices
13. Data Link Filtering
14. What is a Bridge?
15. Network Switches
16. Introduction to the Layer 2 Switch
17. Switch Categories
18. Switch Characteristics
19. Power Over Ethernet
20. Virtual Capabilities
21. Virtual LAN (VLAN)
22. Initial Switch Configuration
23. Interface Configuration
24. Introduction to STP
25. STP Port States
26. RSTP Differences
27. Understanding Trunking
28. Trunking Protocols
29. Additional Management for Switches
30. Topic D: Network Layer Devices
31. The Layer 3 Job

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32. Routing Tables
33. Demo
34. – Reading a Routing Table
35. Network Segmentation Benefits
36. Hardware vs. Software Routers
37. Static vs. Dynamic Routing
38. Routing Protocols
39. Dynamic Routing
40. What is a Metric?
41. Distance Vector vs. Link State
42. Path Vector
43. Interior Routing Protocols
44. Exterior Routing Protocols
45. Routing Problems
46. Router Redundancy
47. Topic E: Additional Network Devices
48. Additional Network Devices
49. Load Balancers
50. Traffic Shapers
51. Chapter 05 Review
52. **Review Quiz (Number of attempts allowed: Unlimited)**

Module 06 -Wide Area Networks

(Duration: 48m)

1. Workbook (Pdf)
2. Topic A: WAN Fundamentals
3. What is a Wide Area Network (WAN)?
4. WAN Options
5. WAN Categories
6. Topic B: Wired WAN Connections
7. Public Switched Telephone Network
8. Integrated Services Digital Network
9. Digital Subscriber Line

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10. Cable Modems
11. MPLS
12. ATM
13. Frame Relay
14. Leased Lines
15. Metropolitan Ethernet
16. Topic C: Wireless WAN Connections
17. Satellite WANs
18. Wireless Local Loop
19. WiMAX
20. Cellular Connections
21. GSM vs. CDMA
22. 3G Technologies
23. 4G Technology
24. Topic D: Fiber WAN Connections
25. Fiber WAN Connections
26. OC Levels
27. Demo – Choosing a WAN Provider
28. Chapter 06 Review
29. **Review Quiz (Number of attempts allowed: Unlimited)**

Module 07 -Remote Access

(Duration: 1h 3m)

1. Workbook (Pdf)
2. Topic A: Introduction to Remote Networking
3. Introduction to Remote Networking
4. Remote Node
5. Remote Desktop Control
6. Remote Control Concepts
7. Demo – Configuring Remote Control
8. Topic B: Authenticating Remote Connections
9. Understanding Authentication
10. Authentication, Authorization, and Accounting (AAA)

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11. CHAP and MS-CHAP
12. EAP and Other Authentication Protocols
13. RADIUS
14. TACACS+
15. Topic C: Understanding Virtual Private Networks
16. What is a VPN?
17. VPN Tunnel Types
18. What is Encapsulation?
19. VPN Components
20. Encryption Types
21. VPN Concentrators
22. VPN Protocols
23. Demo – Create and Configure a VPN
24. Chapter 07 Review
25. **Review Quiz (Number of attempts allowed: Unlimited)**

Module 08- Network Security

(Duration: 2h 47m)

1. Workbook (Pdf)
2. Topic A: Network Security Fundamentals
3. Introduction to Network Security
4. The CIA Triad
5. Network Threats
6. Network Vulnerabilities
7. Understanding Risk
8. What is AAAA?
9. Cryptography
10. Algorithms and Keys
11. Digital Signatures
12. Best Practices for Permissions
13. Best Practices for Employees
14. Topic B: Planning for Network Security
15. Planning for Network Security

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16. Types of Threats
17. Threat-Vulnerability Pairs
18. Identifying Vulnerabilities
19. Types of Vulnerabilities
20. Mitigating Risks
21. User Awareness
22. Understanding Compliance
23. Business Continuity
24. Change Management
25. Network Documentation
26. Topic C: Identifying Threats and Vulnerabilities
27. Threat Categories
28. Introduction to Software Attacks
29. Malicious Code Attacks
30. Types of Malicious Code
31. Network Threats
32. Port Scanning and Eavesdropping
33. IP Spoofing
34. Denial of Service (DoS)
35. Man-in-the-Middle Attacks
36. Human Attacks
37. Wireless Vulnerabilities and Threats
38. Topic D: Protecting the Network
39. Protecting the Network
40. Implementing Physical Protection
41. Physical Security Options
42. Demo – Examining Physical Security Devices
43. Anti-Malware
44. Demo – Anti-malware Options
45. Network Hardening
46. Securing Network Communications
47. Introduction to Firewalls
48. Types of Firewalls
49. Demo – Using Firewalls
50. Authentication
51. Authentication Factors
52. Network Access Control
53. Chapter 08 Review
54. **Review Quiz (Number of attempts allowed: Unlimited)**

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Module 09 – Building Highly Available and Scalable Network

(Duration: 1h 32m)

1. Workbook (Pdf)
2. Topic A: Maintaining Business Continuity
3. Maintaining Business Continuity
4. Understanding High Availability
5. High Availability Options
6. Disaster Recovery
7. Monitoring Network Devices
8. Patch Management
9. Topic B: Virtualization and Cloud Computing
10. What is Virtualization?
11. Virtualization Benefits
12. Virtualization and Cloud Computing
13. Virtual Machine Hosts
14. Virtualization Components
15. The Importance of Storage
16. Storage Options
17. Storage Area Networks
18. Virtual Devices and Networks
19. What is Cloud Computing?
20. The Cloud Advantage
21. Cloud Models
22. Cloud Services Models
23. Demo – Working in the Cloud
24. Topic C: Unified Communications
25. Unified Communications
26. Unified Communication Components
27. Unified Communication Technologies
28. Chapter 09 Review
29. **Review Quiz (Number of attempts allowed: Unlimited)**

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Module 10 -Maintenance, Monitoring, and Troubleshooting

(Duration: 1h 33m)

1. Workbook (Pdf)
2. Topic A: Network Safety Fundamentals
3. The Importance of Safety
4. Electrical Safety
5. Static Electricity
6. Preventing Static Electricity
7. Fire Suppression Systems
8. Topic B: Network Operations
9. Implementing Network Policies
10. Topic C: Maintaining and Monitoring Networks
11. Types of Monitoring
12. Performance Baselines
13. Monitoring Tools
14. Network Monitoring Tools
15. Introduction to Network Tools
16. Analyzing Traffic
17. Environmental Monitoring
18. Using SYSLOG
19. Using SIEM
20. Using SNMP
21. SNMP Components
22. SNMP Packet Types
23. Monitoring Operating Systems
24. Using Task Manager
25. Using Event Viewer
26. Maintaining and Monitoring Networks
27. Using Performance Monitor
28. Additional Monitoring Types
29. Introduction to Patch Management

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30. Operating System Updates
31. Updating Windows Systems
32. Managing Network Devices
33. Topic D: Troubleshooting Methodology
34. Introduction to Troubleshooting
35. Identifying the Issue
36. Establish a Theory of Probable Cause
37. Create an Action Plan
38. Putting it All Together
39. Topic E: Troubleshooting Tools
40. Hardware Troubleshooting Tools
41. Network Tool Kit
42. Software Toolkits
43. OS Troubleshooting Tools
44. Demo – OS Troubleshooting Tools
45. Topic F: Troubleshooting Network Issues
46. Introduction to Wireless Issues
47. Wireless Signal Issues
48. Troubleshooting Hardware and Configuration
49. Wireless Security Issues
50. Troubleshooting Wired Connectivity Issues
51. Troubleshooting Fiber Cable Issues
52. Troubleshooting Network Service Issues
53. Troubleshooting Security Issues
54. Chapter 10 Review
55. Course Closure
56. **Review Quiz (Number of attempts allowed: Unlimited)**

This course includes

- about 16.22hours on-demand video
- 10 downloadable Pdf Workbooks
- Unlimited time access (During Membership)
- Access on mobile and Desktop
- Certificate of Completion

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