

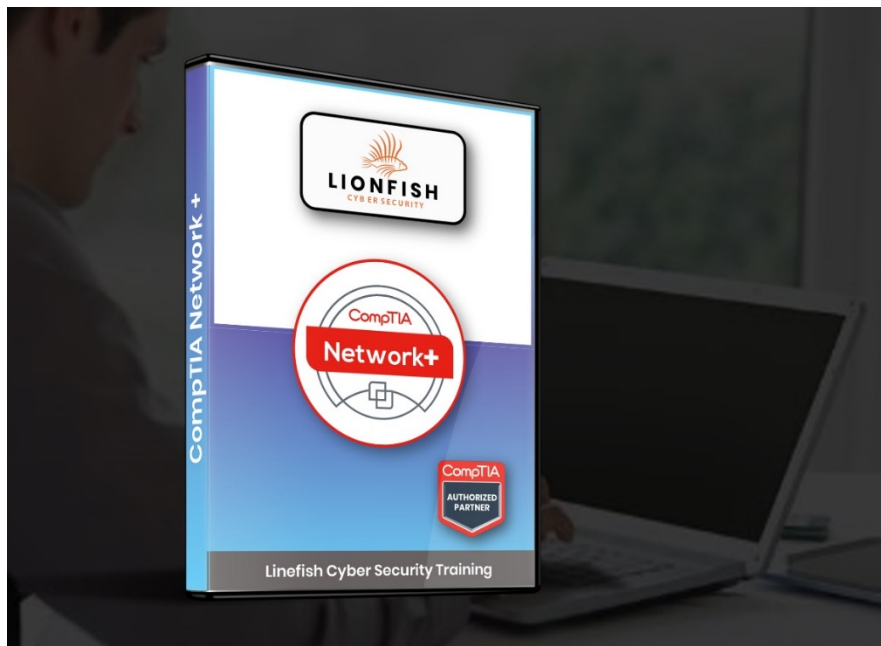


## Lionfish Cyber Security Course Syllabus:

### CompTIA Network+

Interactive and entertaining talk-show style format presented by industry leading experts.

- 40+ hours of virtual training, practice exams, labs, and study.
- Receive a Certificate of completion
- Presented by highly qualified, industry leading experts
- 12 Months Access *(Unless indicated otherwise)*





## **Description**

CompTIA Network+ demonstrates that students can design, configure, manage, and troubleshoot wireless devices. Network concepts, security, and troubleshooting are all crucial elements of this certification exam.

## **Curriculum Overview**

The Network+ Certification Study Guide will teach you the fundamental principles of installing, configuring, and troubleshooting network technologies and help you to progress a career in network administration.

After taking this course, you will be able to:

- Describe the features of different network protocols and products for LANs, WANs, and wireless networks
- Understand the functions and features of TCP/IP addressing and protocols
- Identify threats to network security and appropriate countermeasures and controls
- Install and configure network cabling and appliances
- Manage, monitor, and troubleshoot networks

## **Objectives**

- Network architectures
- Network Installation
- Remote connectivity
- Wireless networking
- Managing risk
- Cabling and topology
- Advanced networking devices
- Virtualization and cloud computing



## Prerequisites

- Configure and support PC, laptop.
- Know basic network terminology and functions (such as Ethernet, TCP/IP, switches, routers).
- Configure and manage users, groups, and shared resources in a simple SOHO network.
- Understand the use of basic access control measures, such as authentication, security policy, encryption, and firewalls.
- Understand TCP/IP addressing, core protocols and troubleshooting tools.

## Target Audience

- who has worked for nine months as a Network Technician
- IT professional
- Interested in a Networking career.

## Syllabus

CompTIA Network+ (N10-007)	
#	Episode Name
1	Promo
2	Introduction
Chapter 1 - Network Models	
1	What is a Model?
2	OSI Model vs. TCP/IP Model
3	Walking Through OSI and TCP/IP
4	Meet the Frame
5	The MAC Address
6	Broadcast vs. Unicast
7	Introduction to IP Addressing
8	Packets and Ports



Training Center

## Chapter 2 - Cabling and Topology

- 1 Network Topologies
- 2 Coaxial Cabling
- 3 Twisted Pair Cabling
- 4 Cat Ratings
- 5 Fiber Optic Cabling
- 6 Fire Ratings
- 7 Legacy Network Connections

## Chapter 3 - Ethernet Basics

- 1 What is Ethernet?
- 2 Ethernet Frames
- 3 Early Ethernet
- 4 The Daddy of Ethernet: 10BaseT
- 5 Terminating Twisted Pair
- 6 Hubs vs. Switches

## Chapter 4 - Modern Ethernet

- 1 100BaseT
- 2 Connecting Switches
- 3 Gigabit Ethernet and 10-Gigabit Ethernet
- 4 Transceivers
- 5 Connecting Ethernet Scenarios

## Chapter 5 - Installing a Physical Network

- 1 Introduction to Structured Cabling
- 2 Terminating Structured Cabling
- 3 Equipment Room
- 4 Alternative Distribution Panels
- 5 Testing Cable
- 6 Troubleshooting Structured Cabling, Part 1
- 7 Troubleshooting Structured Cabling, Part 2
- 8 Using a Toner and Probe
- 9 Wired Connection Scenarios

## Chapter 6 - TCP/IP Basics

- 1 Introduction to IP Addressing and Binary
- 2 Introduction to ARP
- 3 Subnet Masks
- 4 Classful Addressing
- 5 Subnetting with CIDR



- 6 More CIDR Subnetting Practice
- 7 Dynamic and Static IP Addressing
- 8 Rogue DHCP Servers
- 9 Special IP Addresses
- 10 IP Addressing Scenarios

## Chapter 7 - Routing

- 1 Introducing Routers
- 2 Understanding Ports
- 3 Network Address Translation
- 4 Implementing NAT
- 5 Forwarding Ports
- 6 Tour of a SOHO Router
- 7 SOHO vs. Enterprise
- 8 Static Routes
- 9 Dynamic Routing
- 10 RIP
- 11 OSPF
- 12 BGP

## Chapter 8 - TCP/IP Applications

- 1 TCP and UDP
- 2 ICMP and IGMP
- 3 Handy Tools
- 4 Introduction to Wireshark
- 5 Introduction to netstat
- 6 Web Servers
- 7 FTP
- 8 E-mail Servers and Clients
- 9 Securing E-mail
- 10 Telnet and SSH
- 11 Network Time Protocol
- 12 Network Service Scenarios

## Chapter 9 - Network Naming

- 1 Understanding DNS
- 2 Applying DNS
- 3 The HOSTS File
- 4 Net Command
- 5 Windows Name Resolution
- 6 Dynamic DNS



Training Center

7 DNS Troubleshooting

## Chapter 10 - Securing TCP/IP

- 1 Making TCP/IP Secure
- 2 Symmetric Encryption
- 3 Asymmetric Encryption
- 4 Cryptographic Hashes
- 5 Identification
- 6 Access Control
- 7 AAA
- 8 Kerberos/EAP
- 9 Single Sign-On
- 10 Certificates and Trust
- 11 Certificate Error Scenarios

## Chapter 11 - Advanced Networking Devices

- 1 Understanding IP Tunneling
- 2 Virtual Private Networks (VPNs)
- 3 Introduction to VLANs
- 4 InterVLAN Routing
- 5 Interfacing with Managed Switches
- 6 Switch Port Protection
- 7 Port Bonding
- 8 Port Mirroring
- 9 Quality of Service
- 10 IDS vs. IPS
- 11 Proxy Servers
- 12 Load Balancing
- 13 Device Placement Scenarios

## Chapter 12 - IPv6

- 1 Intro to IPv6
- 2 IPv6 Addressing
- 3 IPv6 in Action
- 4 IPv4 and IPv6 Tunneling

## Chapter 13 - Remote Connectivity

- 1 Telephony Technologies
- 2 Optical Carriers
- 3 Packet Switching
- 4 Connecting with Dial-up



- 5 Digital Subscriber Line (DSL)
- 6 Connecting with Cable Modems
- 7 Connecting with Satellites
- 8 ISDN and BPL
- 9 Remote Desktop Connectivity
- 10 Advanced Remote Control Systems

## Chapter 14 - Wireless Networking

- 1 Introduction to 802.11
- 2 802.11 Standards
- 3 Power Over Ethernet (PoE)
- 4 Antennas
- 5 Wireless Security Standards
- 6 Implementing Wireless Security
- 7 Threats to Your Wireless Network
- 8 Retro Threats
- 9 Wi-Fi Protected Setup (WPS)
- 10 Enterprise Wireless
- 11 Installing a Wireless Network
- 12 Wireless Scenarios
- 13 More Wireless Scenarios

## Chapter 15 - Virtualization and Cloud Computing

- 1 Virtualization Basics
- 2 Cloud Ownership
- 3 Cloud Implementation
- 4 Your First Virtual Machine
- 5 NAS and SAN
- 6 Platform as a Service (PaaS)
- 7 Software as a Service (SaaS)
- 8 Infrastructure as a Service (IaaS)

## Chapter 16 - Mobile Networking

- 1 Cellular Technologies
- 2 Mobile Connectivity
- 3 Deploying Mobile Devices
- 4 Mobile Access Control

## Chapter 17 - Building a Real-World Network

- 1 Network Types
- 2 Network Design



Training Center

- 3 Power Management
- 4 Unified Communications
- 5 Network Documentation
- 6 Contingency Planning
- 7 Predicting Hardware Failure
- 8 Backups

## Chapter 18 - Managing Risk

- 1 What is Risk Management?
- 2 Security Policies
- 3 Change Management
- 4 User Training
- 5 Standard Business Documentation
- 7 Mitigating Network Threats
- 8 High Availability

## Chapter 19 - Protecting Your Network

- 1 Denial of Service
- 2 Malware
- 3 Social Engineering
- 4 Access Control
- 5 Man-in-the-Middle
- 6 Introduction to Firewalls
- 7 Firewalls
- 8 DMZ
- 9 Hardening Devices
- 10 Physical Security Controls
- 11 Testing Network Security
- 12 Network Protection Scenarios

## Chapter 20 - Network Monitoring

- 1 SNMP
- 2 Documenting Logs
- 3 System Monitoring
- 4 SIEM

## Chapter 21 - Network Troubleshooting

- 1 Network Troubleshooting Theory





### Training Center

Prepare for the CompTIA Network+ exam with the excellent practice tests. Enabling you to practice on test questions and assess your skill and knowledge of the material. Get certified the best way

- Applies to the current N10-007 exam
- Includes many practice questions
- Requires Windows, macOS, Chrome OS, or Linux (iOS and Android not supported)
- Single-user license

### Learn includes:

- **Interactive learning with flashcards and performance-based questions.**
- **Videos that demonstrate key concepts and processes.**
- **Customizable learning plan.**
- **Easy self-assessments.**
- **Learning progress analytics and reporting.**



Sample Certificate upon completions of each course



To learn more, contact us at 877-732-6772 or [info@lionfishcybersecurity.com](mailto:info@lionfishcybersecurity.com)

[www.LionfishCyberSecurity.com](http://www.LionfishCyberSecurity.com)



101 West Ohio Street,  
Suite 2000, Indianapolis,  
In 46204



CMMC-AB Registered Provider Organization™

This institution is regulated by the Office for  
Career and Technical Schools - 10 N Senate  
Avenue, Suite SE 308, Indianapolis 46204 -  
[OCTS@dwd.in.gov](mailto:OCTS@dwd.in.gov)  
<http://www.in.gov/dwd/2731.htm>

[www.LionfishCyberSecurity.com](http://www.LionfishCyberSecurity.com)  
877-732-6772 or [info@lionfishcybersecurity.com](mailto:info@lionfishcybersecurity.com)  
101 West Ohio Street, Suite 2000, Indianapolis, In 4620410