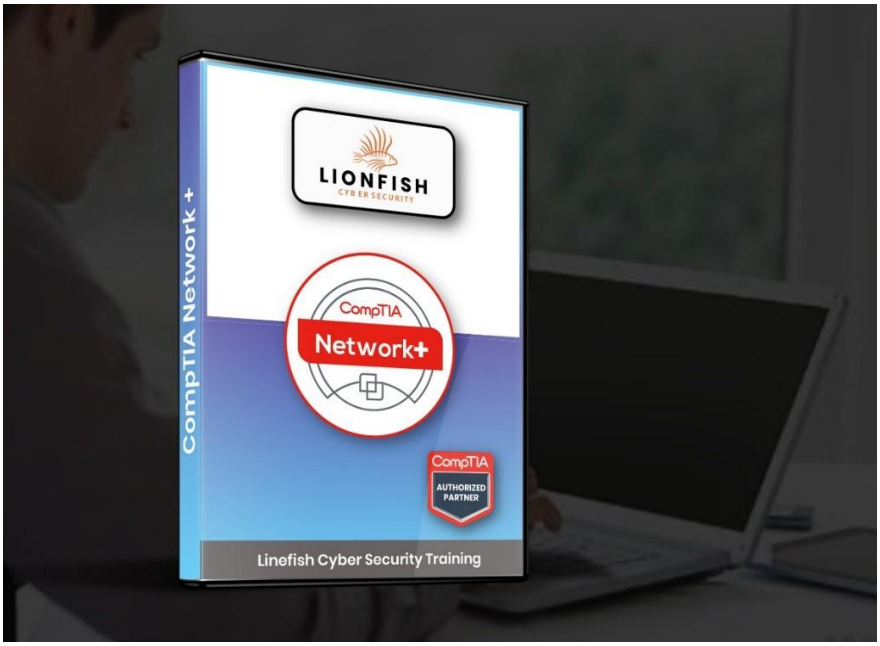
Lionfish Cyber Security Course Syllabus:

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)*



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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

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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

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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

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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

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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

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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

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Sample Certificate upon completions of each course

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