



CompTIA Network+ N10-009 Exam Prep

Florida Cybersecurity Training Program

Offered by the University of West Florida Center for Cybersecurity

Course Overview

Course / Cyber Skills Exercise Dates: February 10 – April 18, 2025

Cyber Skills Exercise Times: N/A

Duration: 9 weeks. 8 course weeks. 1 test week.

Estimated Time Commitment: 20 hours per week for individuals with pre-requisite knowledge; 20+ per week for individuals with no prior professional experience or technical education. **These are considered minimums.**

Instructional Hours: 40 contact hours

Delivery Format: Asynchronous online with weekly instructor Zoom sessions.

Target Audience: Entry-level IT practitioners (1+-years' experience recommended), college graduates/students in hands-on IT degree/certificate/vocational programs, uniformed and civilian personnel subject to DoD Regulation 8570/8140.

Required Prerequisites / Background: CompTIA A+ Certification and a minimum of 9-12 months of hands-on experience working a junior network administration/network support technician job role. Source CompTIA <https://www.comptia.org/certifications/network#examdetails>

CEU's: 4.0, **CPE's:** 48

Course Instructor

Instructor	Email Address
Guy Garrett, M.S., M.B.A.	ggarrett@uwf.edu





Course Description

This course has one purpose – preparing you to take and pass the CompTIA Network+ exam. The goal is mastering concepts, terminology, processes, and procedures to the point that you can accurately apply them to various situations.

What is Network+

Network+ certification is the vendor-neutral dominant entry-level IT certification – one million+ are already Network+ certified. It is an ideal starting point for new career entrants, career changers but also existing Networking Administrators that want more credibility to achieve better employability and higher pay. Successful candidates will have the knowledge required to: perform network configuration, management, and troubleshooting of common wired and wireless network devices. As a Network Administrator you will employ skills that pertain to critical security concepts, key cloud computing best practices and typical service models, newer hardware and virtualization techniques and concepts to give individuals the combination of skills to keep the network resilient.

What should a successful candidate know and be able to do?

- Deploy and troubleshoot Ethernet networks.
- Support IPv4 and IPv6 networks.
- Configure and troubleshoot routers.
- Support network services and applications.
- Ensure network security and availability.
- Deploy and troubleshoot wireless networks.
- Support WAN links and remote access methods.
- Support organizational procedures and site security controls.
- Summarize cloud and data center architecture.

How to succeed in this course.

- Manage your time. Most students average 20-30 hours/week for exam prep.
- Actively engage your instructor.
- Do the labs and watch the demonstrations. This test is performance-based. Hands-on work is the key to conquering situation-based questions.

NIST NICE Cybersecurity Workforce Framework Mapping

The course prepares for the following cybersecurity work roles as defined by the DoD Cyber Workforce Framework (DCWF) and the NICE Cybersecurity Workforce Framework.

DoD Cybersecurity Work Roles and Categories:

- Cyber Defense Infrastructure Support Specialist (Work Role ID: 521)
- Network Operations Specialist (Work Role ID: 441)

NICE Cybersecurity Work Roles and Categories:



- Customer Service & Technical Support (OM-TS-001)
- Network Services (OM-NET-001)
- System Administration (OM-SA-001)

Course Information

Materials

- Course organization, including assignments, grading, and instructor-student communication will be done through the Canvas learning management system (LMS).
- This course uses a variety of materials, including the official curriculum from CompTIA and Pearson (Measure Up)
- Students will be given access codes and instructions on the first day of class to access these resources and connect to the correct class.

Technical Specifications

- Reliable high speed Internet connection | Computer with up-to-date browser. Chrome recommended.
- Students should have a computer with a microphone, speakers, a camera (optional), capable of running Zoom sessions.

Student Accessibility Resources:

If you have a disability that impacts your full participation in this course, please email Student Accessibility Resources at 850.474.2387 or by email, sar@uwf.edu.



Grading:

This course is designed for workforce development and focuses on concept and task mastery learning. Students are **required to complete 80% of all assigned material** in order to pass the course and receive a digital badge. **Doing only 80% of the assignments is not sufficient to pass the certification exam.**

Assignments are graded on a 100-point scale.

Students may repeat assignments to improve their performance. This is encouraged.

For perspective, the following chart should serve as an indicator of a student's potential exam readiness. Any score that a student cannot advance beyond 79% is an indicator to meeting 1:1 with the instructor.

The chart below connects the 100-point grades to exam readiness. The more work you complete correctly and confidently the more likely you are to pass the certification exam.

Proficiency Scoring System		
Rating	Requirements	Progress
READY	Scored 90% or higher	Likely to pass cert exam
ALMOST THERE	Scored 80%-89%	Possibly pass cert exam
DEVELOPING MEET W/ INSTRUCTOR	Scored 70%-79%	Requires remediation to pass cert exam
MANDATORY MEETING WITH INSTRUCTOR	Scored >70%	Unlikely to pass cert exam
NOT EVEN CLOSE MEET W/ INSTRUCTOR	Failed to complete the assignment	Will not pass cert exam

Industry Certification Alignment



This course prepares students to sit for the CompTIA Network+ exam.

Domain	%CompTIA Exam
1.0 Networking Concepts	23%
2.0 Network Implementation	20%
3.0 Network Operations	19%



4.0 Network Security 14%

5.0 Network Troubleshooting 24%

Exam Details

Max. 90 questions (multiple-choice & performance-based)

Length: 90 minutes

Passing Score: 720 on a scale of 100-900

Course Versioning

This course aligns to the N10-009 Exam.

Course Overview / Schedule

Course Schedule

Week	Lessons
1	Module 1: Explaining Network Topologies Module 2: Supporting Cabling & Physical Installations
2	Module 3: Configuring Interfaces & Switches Module 4: Configuring Network Addressing
3	Module 5: Configuring Routing & Advanced Switching Module 6: Implementing Network Services
4	Module 7: Explaining Application Services Module 8: Supporting Network Management
5	Module 9: Explaining Network Security Groups Module 10: Applying Network Security Features
6	Module 11: Supporting Network Security Design Module 12: Configuring Wireless Networks
7	Module 13: Comparing Remote Access Methods Module 14: Summarizing Cloud Concepts
8	REVIEW WEEK
9	EXAM WEEK

Lessons & Exam Objectives

This chart connects each lesson to the exam objectives.

Time estimates only reflect the material in CompTIA CertMaster Perform™. Your instructor may assign supplemental resources, including instructor-produced lectures, additional video resources, and/or quiz practice in CompTIA CertMaster Practice™ and Pearson Measure Up®.



Module / Lesson	Exam Objectives	Estimated Time *CompTIA Perform ONLY
Module 1: Explaining Network Topologies		
Lesson 1.1: Networking Overview	1.2 Compare & contrast networking appliances, applications, and functions. 1.6 Compare & contrast network topologies, architectures, and types.	50 minutes
Lesson 1.2: OSI Model Concepts	1.1 Explain concepts related to the Open Systems Interconnection (OSI) reference model. 1.8 Summarize evolving use cases for modern network environments. 5.1 Explain the troubleshooting methodology.	55 minutes
Lesson 1.3: SOHO Networks	1.1, 1.2	84 minutes
Lesson 1.4: Troubleshooting Methodology	5.1	72 minutes
1.5: Module Quiz		20 minutes
Module 2: Supporting Cabling & Physical Installations		
Lesson 2.1: Ethernet	1.5 Compare and contrast transmission media and transceivers. 2.2 Given a scenario, configure switching technologies & features. 5.4 Given a scenario, troubleshoot common performance issues.	55 minutes
Lesson 2.2: Copper Cables & Connectors	1.5 5.2 Given a scenario, troubleshoot common cabling and physical interface issues.	70 minutes
Lesson 2.3: Wiring Implementation	1.5 2.4 Explain important factors of physical installations.	89 minutes



Lesson 2.4: Fiber Optic Cables & Connectors	1.5, 2.4, 5.2	65 minutes
Lesson 2.5: Physical Installation Factors	2.4 3.1 Explain the purpose of organizational processes and procedures.	30 minutes
Lesson 2.6: Cable Troubleshooting	1.5, 5.2 5.5 Given a scenario, use the appropriate tool or protocol to solve networking issues.	132 minutes
2.7: Module Quiz		30 minutes
Module 3: Configuring Interfaces & Switches		
Lesson 3.1: Network Interfaces	1.5, 4.3 Given a scenario, apply network security features, defense techniques, and solutions. 5.2	72 minutes
Lesson 3.2: Ethernet Switches	1.2 2.2 Given a scenario, configure switching technologies and features.	91 minutes
Lesson 3.3: Switch Port Configuration	2.2, 5.2 5.3 Given a scenario, troubleshoot common issues with network services.	87 minutes
Lesson 3.4: Switch Troubleshooting	4.3, 5.2, 5.3, 5.5	74 minutes
3.5: Module Quiz		20 minutes
3.6 Checkpoint Review		20 minutes
Module 4: Configuring Network Addressing		
Lesson 4.1: Internet Protocol Basics	1.1 1.4 Explain common networking ports, protocols, services, and traffic types.	64 minutes
Lesson 4.2: IP Version 4 Addressing	1.7 Given a scenario, use appropriate IPv4 network addressing.	98 minutes
Lesson 4.3: IP Version 4 Subnetting	1.7	54 minutes



Lesson 4.4: IP Troubleshooting Tools	5.3, 5.5	73 minutes
Lesson 4.5: IP Version 6	1.4, 1.7 1.8 Summarize evolving use cases for modern network environments.	80 minutes
Lesson 4.6 IP Troubleshooting	5.3	103 minutes
4.7: Module Quiz		30 minutes
Module 5: Configuring Routing and Advanced Switching		
Lesson 5.1: Routing Technologies	1.2, 1.7 2.1 Explain characteristics of routing technology. 2.2 Given a scenario, configure switching technologies & features. 5.5	77 minutes
Lesson 5.2: Dynamic Routing Technologies	2.1	40 minutes
Lesson 5.3: Network Address Translation	2.1	50 minutes
Lesson 5.4: Firewalls	1.2	23 minutes
Lesson 5.5: Enterprise Network Topologies	1.6 Compare & contrast network topologies, architectures, and types.	30 minutes
Lesson 5.6: Virtual LANs	2.1, 2.2, 5.5	123 minutes
Lesson 5.7: Routing & VLAN Troubleshooting	5.3	33 minutes
5.8: Module Quiz		30 minutes
Module 6: Implementing Network Services		
Lesson 6.1: Transport & Application Layer Protocols	1.4, 5.5	83 minutes
Lesson 6.2: Dynamic Host Control Protocol	1.4 3.4 Given a scenario, implement IPv4 and IPv6 network services.	121 minutes
Lesson 6.3: APIPA & SLAAC	1.4, 1.7, 3.4	49 minutes
Lesson 6.4: DHCP Relay & Troubleshooting	3.4, 5.3, 5.5	111 minutes



Lesson 6.5: Domain Name System	1.2, 1.4, 3.4, 5.5	146 minutes
Lesson 6.6: DNS Troubleshooting	1.4, 3.4, 5.5	30 minutes
6.7: Module Quiz		30 minutes
6.8 Checkpoint Review		20 minutes
Module 7: Explaining Application Services		
Lesson 7.1: Application Security & Time Synchronization	1.4, 3.4	48 minutes
Lesson 7.2: Web, File, Print, & Database Services	1.2, 1.4, 5.5	68 minutes
Lesson 7.3: Email & Voice Services	1.3 Explain common networking ports, protocols, services, and traffic types. 1.4, 5.2	73 minutes
Lesson 7.4: Disaster Recovery & High Availability	1.2, 2.1 3.3 Explain disaster recovery concepts.	78 minutes
7.5 Module Quiz		20 minutes
Module 8: Supporting Network Management		
Lesson 8.1: Organizational Policies & Documentation	3.1 Explain the purpose of organizational processes & procedures.	84 minutes
Lesson 8.2: Host Discovery & Monitoring	3.2 Given a scenario, use network monitoring technologies. 5.5	77 minutes
Lesson 8.3: Simple Network Management Protocol	1.4, 3.2	28 minutes
Lesson 8.4: Event Management	1.4, 3.2	121 minutes
Lesson 8.5: Packet Capture & Analysis	3.2, 5.5	63 minutes
Lesson 8.6: Traffic Monitoring	1.2, 3.2 5.4 Given a scenario, troubleshoot common performance issues. 5.5	74 minutes
8.7: Module Quiz		30 minutes
Module 9: Explaining Network Security Concepts		



Lesson 9.1: Security Concepts	4.1 Explain the importance of basic network security concepts.	62 minutes
Lesson 9.2: Network Threats & Attacks	4.1	65 minutes
Lesson 9.3: Spoofing Attacks	4.1 4.2 Summarize various types of attacks and their impact to the network. 5.5	81 minutes
Lesson 9.4: Rogue System Attacks	4.2, 5.5	100 minutes
Lesson 9.5: Social Engineering	4.2	58 minutes
9.6: Module Quiz		25 minutes
9.7: Checkpoint Review		20 minutes
Module 10: Applying Network Security Features		
Lesson 10.1: Authentication	4.1 4.3 Given a scenario, apply network security features, defense techniques, and solutions.	56 minutes
Lesson 10.2: Authorization & Account Management	1.4, 4.1	44 minutes
Lesson 10.3: Network Hardening	4.1, 4.3, 5.5	78 minutes
Lesson 10.4: Switch Security	3.2, 4.3	113 minutes
Lesson 10.5: Network Security Rules	1.2, 4.3, 5.3	121 minutes
10.6: Module Quiz		25 minutes
Module 11: Supporting Network Security Design		
Lesson 11.1: Zone-based Security	1.2, 4.1, 4.3	77 minutes
Lesson 11.2 Internet of Things	4.1	47 minutes
Lesson 11.3: Physical Security	4.1	28 minutes
11.4: Module Quiz		15 minutes
Module 12: Wireless Security		
Lesson 12.1: Wireless Concepts & Standards	1.5 2.3 Given a scenario, select and configure wireless devices & technologies.	52 minutes



Lesson 12.2: Enterprise Wireless Network Design	1.2, 2.3, 3.1, 5.4	98 minutes
Lesson 12.3: Wireless Security	1.2, 2.3, 4.1, 4.2	119 minutes
Lesson 12.4: Wireless Troubleshooting	1.2, 4.2, 5.2, 5.4, 5.5	93 minutes
12.5: Module Quiz		20 minutes
12.6: Checkpoint Review		20 minutes
Module 13: Comparing Remote Access Methods		
Lesson 13.1: WAN & Internet Connectivity	1.1, 1.5	25 minutes
Lesson 13.2: Virtual Private Networks	1.2, 1.4, 3.5	103 minutes
Lesson 13.3: Remote Management	1.4, 3.5, 5.5	86 minutes
13.4: Module Quiz		15 minutes
Module 14: Summarizing Cloud Concepts		
Lesson 14.1: Datacenter & Storage Networks	1.2, 1.5, 1.6	56 minutes
Lesson 14.2 Cloud Concepts	1.2, 1.3 Summarize cloud concepts & connectivity options.	32 minutes
Lesson 14.3: Cloud Networking	1.1, 1.2	47 minutes
Lesson 14.4: Modern Network Environments	1.8 Summarize evolving use cases for modern network environments	58 minutes
14.5: Module Quiz		20 minutes