



Networking II

2023-2024 Catalog

[ARCHIVED CATALOG]

NETI 119 - Networking II

PREREQUISITES: [NETI 105 - Network Fundamentals](#) or [NETI 109 - Networking I](#).

PROGRAM: Network Infrastructure

CREDIT HOURS MIN: 3

LECTURE HOURS MIN: 1.5

LAB HOURS MIN: 3

DATE OF LAST REVISION: N/A

Networking II is the second of three courses in the Cisco CCNAv7 curriculum. This course includes activities using Packet Tracer, hands-on lab work, and a wide array of assessment types and tools. The course covers the architecture, components, and operations of routers and switches in small networks and introduces wireless local area networks (WLAN) and security concepts. Students learn how to configure and troubleshoot routers and switches for advanced functionality using security best practices and resolve common issues with protocols in both IPv4 and IPv6 networks.

MAJOR COURSE LEARNING OBJECTIVES: Upon successful completion of this course the student will be expected to:

- 1. Configure VLANs and Inter-VLAN routing applying security best practices.
- 2. Troubleshoot inter-VLAN routing on Layer 3 devices.
- 3. Configure redundancy on a switched network using STP and EtherChannel.
- 4. Troubleshoot EtherChannel on switched networks.
- 5. Explain how to support available and reliable networks using dynamic addressing and first-hop redundancy protocols.
- 6. Configure dynamic address allocation in IPv6 networks.
- 7. Configure WLANs using a WLC and L2 security best practices.
- 8. Configure switch security to mitigate LAN attacks.
- 9. Configure IPv4 and IPv6 static routing on routers.

COURSE CONTENT: Topical areas of study include - **DELIVERY METHOD:**

Minimum Pod Configuration

Qty	Product Number	Description	Notes
2	ISR 4221/K9	Cisco ISR 4221 (2GE, 2NIM, 8G Flash, 4G RAM, IPB)	Should be ordered with IOS-XE Image with Payload Encryption
2	WS-C2960+24TC-L	Catalyst 2960 Plus 24 10/100 +2T/SFP LAN Base Image	
1	Wireless Router	Wireless router (generic brand) with WPA2 support.	

Ideal Pod Configuration

Qty	Product Number	Description	Notes
3	ISR 4321/K9	Cisco ISR 4321 (3GE, 2NIM, 1SM, 4G Flash, 4G RAM, IPB)	Should be ordered with IOS-XE Image Payload Encryption
3	WS-C2960+24TC-L	Catalyst 2960 Plus 24 10/100 +2T/SFP LAN Base Image	
1	Wireless Router	Wireless router (generic brand) with WPA2 support.	
3	NIM-2T	2-Port Serial WAN Interface card	Not required for labs, but recommended if you want to avoid doing labs in Packet Tracer
3	ACS-4220-RM-19	19 inch rack mount kit for Cisco ISR 4221 series	
3	CAB-SS-V35MT	V.35 Cable, DTE Male to Smart Serial, 10 Feet	For use with the NIM-2T Serial cards
3	CAB-SS-V35FC	V.35 Cable, DCE Female to Smart Serial, 10 feet	For use with the NIM-2T Serial cards (Note: Matt recommends this 3 ft cable if your routers are close enough together) Diablo 3 ft Smart Serial Cable on Amazon

This course requires a dedicated classroom in which students have administrator privileges to the computers. Campuses and sites that offer this course must also provide students with access to a datacenter that meets the requirements of the Cisco Networking Academy (see below).

Hardware		
Qty	Description	Notes
1	(optional) PC acting as an application server (MS Windows Server or Windows 7 or later)	
3	Desktop PCs acting as clients (MS Windows 7 or later)	
2	Wireless LAN Adapters for the client PCs	
--	Ethernet cables and Serial Cables as required	
Software		
Qty	Description	Notes
--	Packet Tracer v7.3	
--	Tera Term source SSH client software for lab PCs.	
--	Oracle VirtualBox, most recent version.	
--	Wireshark version 2.5 or higher.	
--	Open-source server software: For various services and protocols, such as Telnet, SSH, HTTP, DHCP, FTP, TFTP, etc.	

[Course Addendum - Syllabus \(Click to expand\)](#)

