

# CCNA Curriculum

## Curriculum Overview

The courses in the CCNA Version 7.0 curriculum help students develop a comprehensive foundation for designing, securing, operating, and troubleshooting modern computer networks, on the scale from small business networks to enterprise networks, with an emphasis on hands-on learning and essential career skills like problem solving and collaboration.

## Career Prep

By the end of the CCNA course series, students gain practical, hands-on experience preparing them for the CCNA certification exam and career-ready skills for associate-level roles in the Information & Communication Technologies (ICT) industry.

## Learning Components

- Series of 3 courses:
  1. Introduction to Networks (ITN)
  2. Switching, Routing, and Wireless Essentials (SRWE)
  3. Enterprise Networking, Security, and Automation (ENSA)
- Hands-on labs and Cisco Packet Tracer network simulation activities
- Videos, activities, and quizzes reinforce learning
- Exams to measure learning outcomes
- Assessment features to ensure exam security and integrity

## Features



**Target Audience:** Students interested in pursuing an IT-related career

**Prerequisites:** None. Vocational students often take IT Essentials or equivalent knowledge prior to CCNA

**Course Delivery:** Instructor-Guided

**Estimated Time to Complete:** 200 hours

**Recommended Next Course:** CCNP Enterprise Core, CCNA CyberOps, DevNet Associate, Python or Emerging Tech Workshops



# CCNAv7: Introduction to Networks

## Course Overview

The first course in the CCNA curriculum introduces the architectures, models, protocols, and networking elements that connect users, devices, applications and data through the Internet and across modern computer networks - including IP addressing and Ethernet fundamentals.

## Benefits

By the end of the course, students can build simple local area networks (LAN) that integrate IP addressing schemes, foundational network security, and perform basic configurations for routers and switches.

## Learning Components

- 17 modules
- 24 hands-on labs
- 31 Cisco Packet Tracer activities
- 36 videos
- 10 syntax checkers
- 13 interactive activities
- 64 CYU quizzes
- 17 module exams
- 6 module group exams
- 1 final exam



## Features

- Target Audience:** Secondary vocational students, 2-year and 4-year college students in Networking or Engineering
- Prerequisites:** None
- Instructor Training Required:** Yes
- Languages:** English
- Course Delivery:** Instructor-Guided
- Course Recognitions:** Certificate of Completion, Letter of Merit, Digital Badge
- Estimated Time to Complete:** 70 hours
- Recommended Next Course:** CCNAv7: Switching, Routing, and Wireless Essentials

# CCNAv7: Switching, Routing, and Wireless Essentials

## Course Overview

The second course in the CCNA curriculum focuses on switching technologies and router operations that support small-to-medium business networks and includes wireless local area networks (WLAN) and security concepts.

## Benefits

Students learn key switching and routing concepts. They can perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, and configure and secure a basic WLAN.

## Learning Components

- 16 modules
- 14 hands-on labs
- 31 Cisco Packet Tracer activities
- 15 videos
- 19 syntax checkers
- 1 interactive activity
- 36 CYU quizzes
- 16 module exams
- 5 module group exams
- 1 final exam



## Features

**Target Audience:** Secondary vocational students, 2-year and 4-year college students in Networking or Engineering

**Prerequisites:** None

**Instructor Training Required:** Yes

**Languages:** English

**Course Delivery:** Instructor-Guided

**Course Recognitions:** Certificate of Completion, Letter of Merit, Digital Badge

**Estimated Time to Complete:** 70 hours

**Recommended Next Course:** CCNAv7: Enterprise Networking, Security, and Automation

# CCNAv7: Enterprise Networking, Security, and Automation

## Course Overview

The third CCNA course describes the architectures and considerations related to designing, securing, operating, and troubleshooting enterprise networks – including wide area network (WAN) technologies & quality of service (QoS) mechanisms for secure remote access, along with software-defined networking, virtualization, & automation concepts supporting network digitization.

## Benefits

Students gain skills to configure and troubleshoot enterprise networks, and learn to identify and protect against cybersecurity threats. They are introduced to network management tools and learn key concepts of software-defined networking, including controller-based architectures and how application programming interfaces (APIs) enable network automation.

## Learning Components

- 14 modules
- 12 hands-on labs
- 29 Cisco Packet Tracer activities
- 32 videos
- 13 syntax checkers
- 2 interactive activities
- 53 CYU quizzes
- 14 module exams
- 5 module group exams
- 1 final exam
- 1 practice exam for CCNA certification exam



## Features

**Target Audience:** 2-year and 4-year college students in Networking or Engineering

**Prerequisites:** None

**Instructor Training Required:** Yes

**Languages:** English

**Course Delivery:** Instructor-Guided

**Course Recognitions:** Certificate of Completion, Letter of Merit, Digital Badge

**Estimated Time to Complete:** 70 hours

**Recommended Next Course:** CCNP Enterprise Core



# Build Critical Skills for Today - and Tomorrow

## Certification Alignment

Associate Level



One Exam

IP Foundation (Core Networking) - 75%

Security - 15%

Network Automation - 10%

- As of Feb 2020, Cisco has a new, consolidated CCNA certification evolved for the New Network
- NetAcad curriculum has evolved to stay aligned
- In CCNAv7, students gain critical networking skills, plus foundations for security and automation
- CCNAv7 practice exams and activities prepare learners for the new exam





# CCNA 7.0 Course Outlines

Intro to Networks (ITN)
Networking Today
Basic Switch and End Device Configuration
Protocol Models
Physical Layer
Number Systems
Data Link Layer
Ethernet Switching
Network Layer
Address Resolution
Basic Router Configuration
IPv4 Addressing
IPv6 Addressing
ICMP
Transport Layer
Application Layer
Network Security Fundamentals
Build a Small Network

Switching, Routing, and Wireless Essentials (SRWE)
Basic Device Configuration
Switching Concepts
VLANs
Inter-VLAN Routing
STP
Etherchannel
DHCPv4
SLAAC and DHCPv6 Concepts
FHRP Concepts
LAN Security Concepts
Switch Security Configuration
WLAN Concepts
WLAN Configuration
Routing Concepts
IP Static Routing
Troubleshoot Static and Default Routes

Enterprise Networking, Security and Automation (ENSA)
Single-Area OSPFv2 Concepts
Single-Area OSPFv2 Configuration
WAN Concepts
Network Security Concepts
ACL Concepts
ACLs for IPv4 Configuration
NAT for IPv4
VPN and IPsec Concepts
QoS Concepts
Network Management
Network Design
Network Troubleshooting
Network Virtualization
Network Automation



## Complementary Options

CCNP Enterprise (ENCOR, ENARSI)

or

CCNA Security / CCNA CyberOps

or

DevNet Associate

or

Python / ETWs

or lead with

IT Essentials

 New/significantly changed content



# Accelerated Path to Job Readiness

## Module Objectives

### Introduction to Networks (ITN)

Module		Module Group Assessments
Module 1	Networking Today	<b>Basic Network Connectivity and Communications</b>
Module 2	Basic Switch and End Device Configuration	
Module 3	Protocol Models	
Module 4	Physical Layer	<b>Ethernet Concepts</b>
Module 5	Number Systems	
Module 6	Data Link Layer	
Module 7	Ethernet Switching	<b>Communicating Between Networks</b>
Module 8	Network Layer	
Module 9	Address Resolution	
Module 10	Basic Router Configuration	<b>IP Addressing</b>
Module 11	IPv4 Addressing	
Module 12	IPv6 Addressing	
Module 13	ICMP	<b>Network Application Communications</b>
Module 14	Transport Layer	
Module 15	Application Layer	
Module 16	Network Security Fundamentals	<b>Building and Securing a Small Network</b>
Module 17	Build a Small Network	

**NEW!**



# Accelerated Path to Job Readiness

## Module Objectives

## Switching, Routing, and Wireless Essentials (SRWE)

Module		Module Group Assessments
Module 1	Basic Device Configuration	<b>Switching Concepts and VLANS</b>
Module 2	Switching Concepts	
Module 3	VLANs	
Module 4	Inter-VLAN Routing	
Module 5	STP	<b>Redundant Networks</b>
Module 6	Etherchannel	
Module 7	DHCPv4	<b>Available and Reliable Networks</b>
Module 8	SLAAC and DHCPv6 Concepts	
Module 9	FHRP Concepts	
Module 10	LAN Security Concepts	<b>L2 Security and WLANs</b>
Module 11	Switch Security Configuration	
Module 12	WLAN Concepts	
Module 13	WLAN Configuration	
Module 14	Routing Concepts	<b>Routing Concepts and Configuration</b>
Module 15	IP Static Routing	
Module 16	Troubleshoot Static and Default Routes	





# Accelerated Path to Job Readiness

## Module Objectives

## Enterprise Networking, Security, and Automation (ENSA)

Module		Module Group Assessments
Module 1	Single-Area OSPFv2 Concepts	<b>OSPF Concepts and Configuration</b>
Module 2	Single-Area OSPFv2 Configuration	
Module 3	Network Security Concepts	<b>Network Security</b>
Module 4	ACLs Concepts	
Module 5	ACLs for IPv4 Configuration	
Module 6	NAT for IPv4	
Module 7	WAN Concepts	<b>WAN</b>
Module 8	VPN and IPsec Concepts	
Module 9	QoS Concepts	<b>Optimize, Monitor, and Troubleshoot Networks</b>
Module 10	Network Management	
Module 11	Network Design	
Module 12	Network Troubleshooting	
Module 13	Network Virtualization	<b>Network Virtualization and Automation</b>
Module 14	Network Automation	