

Cisco CCNP

Become the enterprise network engineer who designs, secures and automates the networks that businesses run on.

Duration: 2 months

Prepares for: Cisco CCNP Enterprise

Format: Online or onsite, 1-on-1 or batch

Target exam: 350-401 ENCOR (v1.2) core, plus one concentration exam

NUEXUS certificate on completion

OVERVIEW

This is a hands-on, lab-driven CCNP Enterprise course that takes you well beyond associate-level networking into the design, deployment, operation and automation of enterprise infrastructure. Over roughly two months you work through the core ENCOR knowledge areas (enterprise architecture, virtualization, infrastructure with advanced routing and switching, security, network assurance, and automation) plus a routing and services concentration, building and troubleshooting real topologies at every step. It is delivered mentor-led by certified trainers, online from anywhere or onsite in Islamabad, in batch or 1-on-1 format, and finishes with a NUEXUS completion certificate. The course is exam-aligned to the current Cisco CCNP Enterprise track and focused on the practical skills employers actually hire for.

SKILLS YOU WILL GAIN

Enterprise Architecture

Infrastructure (OSPF, EIGRP, BGP)

Network Virtualization

Network Assurance

Enterprise Security Services

Automation & AI

Advanced Routing (ENARSI)

VPN Technologies

Troubleshooting

WHAT YOU WILL BE ABLE TO DO

- Design and troubleshoot enterprise campus networks using advanced Layer 2 switching (VLANs, trunking, STP variants, EtherChannel) and first-hop redundancy (HSRP, VRRP, GLBP)
- Configure and troubleshoot advanced IPv4 and IPv6 routing with OSPF, EIGRP and BGP, including route redistribution, filtering and path control
- Explain and work with enterprise network architectures, SD-WAN and SD-Access fundamentals, and network virtualization (VRF, GRE, IPsec, overlay concepts)
- Secure network infrastructure with device access control (AAA, TACACS+/RADIUS), control-plane policing, ACLs and common Layer 2 protection mechanisms
- Use network assurance tools to monitor and troubleshoot (SNMP, Syslog, NetFlow/Flexible NetFlow, SPAN/RSPAN, IP SLA, debugs and structured troubleshooting)
- Automate network tasks using programmability concepts: data formats (JSON), REST APIs, Python basics, and tools like NETCONF/RESTCONF and Cisco DNA Center / EEM scripting

WHO IT IS FOR

- Network engineers and administrators who already hold or match CCNA-level knowledge and want to move into senior or design roles
- IT professionals running enterprise LAN, WAN or campus networks who need deeper routing, switching and troubleshooting skills
- Support and NOC engineers aiming to specialise in enterprise infrastructure, wireless or network automation
- Professionals preparing for the Cisco CCNP Enterprise certification (ENCOR core plus a concentration such as ENARSI)
- Anyone targeting roles like network engineer, network consultant, or infrastructure specialist in ISPs, enterprises or managed service providers

PREREQUISITES

- CCNA-level knowledge or equivalent hands-on experience (IP addressing, subnetting, basic routing and switching). A current CCNA is recommended but not formally required by Cisco.
- Comfort configuring Cisco IOS devices via the CLI (interfaces, VLANs, static and basic dynamic routing)
- A working understanding of the OSI/TCP-IP model and common protocols (TCP, UDP, DNS, DHCP, ARP)
- A computer capable of running network simulation/emulation labs (Cisco Packet Tracer, EVE-NG or GNS3); guidance on lab setup is provided

WHAT'S INCLUDED

- Mentor-led live sessions, online or onsite, in batch or 1-on-1
- Hands-on labs and real-world projects, not slides alone
- Recordings of your own sessions to revisit anytime
- Exam-aligned study material and practice questions
- Doubt-clearing and revision support through the program
- A verifiable NUEXUS completion certificate
- Career and next-step guidance after you finish

COURSE CURRICULUM

1 Enterprise Network Architecture and Design

Enterprise campus, WAN and cloud design models (two-tier, three-tier, Cisco SD-Access fabric)

High availability and redundancy design (StackWise, chassis, hardware/software resiliency)

Wired and wireless deployment models and controller architectures

Capacity, QoS and network design fundamentals for the enterprise

2 Advanced Enterprise Switching

VLANs, trunking (802.1Q), inter-VLAN routing and troubleshooting

Spanning Tree Protocol variants (RSTP, MST) and protection (BPDU Guard, Root Guard, Loop Guard)

EtherChannel (LACP/PAgP) configuration and troubleshooting

First-hop redundancy protocols: HSRP, VRRP and GLBP

3 Advanced IP Routing: OSPF and EIGRP

OSPF single-area and multi-area design, areas, LSAs and route summarization

EIGRP operation, metrics, feasible successors and troubleshooting

Route redistribution between protocols and administrative distance

Route filtering, prefix lists, route maps and path control

4 BGP and Path Control

eBGP and iBGP fundamentals, neighbor relationships and states

BGP path attributes and best-path selection

Basic BGP policy with route maps and filtering

Troubleshooting BGP adjacency and route advertisement issues

5 Network Virtualization and Overlay

VRF and VRF-Lite for network segmentation

GRE and IPsec tunnels for site-to-site connectivity

Overlay concepts: VXLAN, LISP and fabric data/control planes (SD-Access overview)

SD-WAN components, architecture and use cases (overview)

6 Enterprise Wireless

Wireless fundamentals: RF concepts, bands, channels and AP modes

WLC deployment, AP association (CAPWAP) and client roaming

WLAN configuration, SSIDs and wireless QoS basics

Wireless security (WPA2/WPA3, 802.1X) and troubleshooting client connectivity

7 Network Security and Infrastructure Hardening

Device access control with AAA, RADIUS and TACACS+

Securing management and control planes (CoPP, control-plane hardening)

Access control lists (ACLs) and infrastructure ACL design

Layer 2 security: port security, DHCP snooping, Dynamic ARP Inspection

8 Network Assurance and Troubleshooting

Monitoring with SNMP, Syslog and NetFlow/Flexible NetFlow

Traffic capture and analysis with SPAN, RSPAN and ERSPAN

Reachability and performance testing with IP SLA and debug/ping/traceroute

Structured troubleshooting methodology across the OSI model

9 Network Automation and Programmability

Data encoding formats: JSON and YAML basics

REST APIs and interacting with network devices programmatically

NETCONF, RESTCONF and model-driven programmability (YANG overview)

Python fundamentals for networking and Cisco DNA Center / EEM scripting basics

10 Exam Preparation and Capstone Labs

ENCOR core blueprint review and timed practice questions

ENARSI (concentration) focus: advanced routing and services troubleshooting

End-to-end capstone lab: build, secure and automate a multi-site enterprise topology

Troubleshooting drills, exam strategy and readiness review

CAREER OUTCOMES

Senior Network Engineer

Network Architect

Network Consultant

Infrastructure Engineer

Network Team Lead

CERTIFICATION PATH

NUEXUS training certificate

Issued by NUEXUS on course completion. Verifiable at nuexus.com/verify.

Cisco CCNP Enterprise

Earned by passing the official exam. Issued and verified by the certification body itself, not by NUEXUS.

Exam	350-401 ENCOR (v1.2) core, plus one concentration exam
Questions	Cisco does not publish a fixed question count; expect multiple choice, drag-and-drop, and simulations
Format	Multiple choice, drag-and-drop, and hands-on items
Duration	ENCOR core is 120 minutes; the ENARSI concentration is 90 minutes
Passing score	Cisco does not publish a fixed passing score; it is set by statistical analysis and can vary by exam
Delivery	Pearson VUE, at a test center or online proctored

Cisco exam fees are paid separately to Cisco and quoted per engagement. Passing each exam also earns a Cisco Specialist certification; certifications are valid for three years. Even when NUEXUS arranges your exam voucher, the resulting certification is issued and verified by the certification body directly.