

CCNP ENCOR Syllabus Overview

The **ccnp encore syllabus** represents the foundation of the CCNP Enterprise track. It validates a broad range of skills required in real-world enterprise environments, including architecture, infrastructure, security, automation, and network assurance.

1. Enterprise Network Architecture

This section of the **ccnp encor syllabus** covers the design principles and models used in modern enterprise networks. Candidates are expected to understand:

- Enterprise network design concepts
- Campus, WAN, and data center architectures
- Software-defined networking concepts
- Cloud integration models

These **Cisco CCNP exam topics** ensure candidates can design scalable and resilient enterprise networks.

2. Enterprise Network Infrastructure

A major portion of the **ccnp encor syllabus** focuses on infrastructure technologies. Topics include:

- Layer 2 and Layer 3 switching concepts
- Routing protocols such as OSPF, EIGRP, and BGP
- Wireless network fundamentals
- QoS concepts and implementation
- IP services and addressing

Mastering this section builds a strong technical foundation aligned with enterprise networking roles.

3. Network Virtualization and Services

Modern enterprise networks rely heavily on virtualization. This section of the **ccnp encore syllabus** covers:

- Virtual LANs and virtual routing

- Network services integration
- Overlay and underlay concepts
- Device virtualization and segmentation

These topics are critical for professionals working in complex, scalable environments.

4. Enterprise Network Security

Security is deeply integrated into the **ccnp encore syllabus**. Candidates learn:

- Device hardening techniques
- Access control concepts
- Security policies and enforcement
- Secure network design principles

This section ensures candidates understand security fundamentals across enterprise infrastructure.

5. Network Automation and Programmability

Automation is a core component of the **ccnp encore syllabus**. Topics include:

- Network programmability concepts
- APIs and controller-based architectures
- Automation tools and workflows
- Model-driven programmability

These **Cisco CCNP exam topics** prepare candidates for modern, software-driven networking roles.

CCNP ENARSI Topics Explained

While ENCOR provides the foundation, ENARSI validates advanced routing skills. Understanding **ccnp enarsi topics** is essential for professionals focusing on enterprise routing and troubleshooting.

1. Advanced Routing Technologies

The **ccnp Benares topics** include in-depth coverage of advanced routing protocols such as:

- Advanced OSPF concepts
- Enhanced EIGRP operations
- BGP routing policies and optimization
- Route redistribution and path control

These skills are critical for managing large-scale enterprise networks.

2. Advanced IP Services

ENARSI goes deeper into enterprise services, including:

- DHCP, DNS, and NAT implementations
- Network time and synchronization services
- First-hop redundancy protocols
- Multicast routing concepts

These **Cisco CCNP exam topics** test your ability to deploy and troubleshoot core enterprise services.

3. VPN and Secure Connectivity

A key part of **ccnp enarsi topics** focuses on secure WAN connectivity:

- Site-to-site VPN concepts
- Remote access solutions
- Tunnel technologies
- Secure routing integrations

This knowledge is essential for geographically distributed enterprise networks.

4. Infrastructure Security and Services

ENARSI also tests advanced infrastructure security concepts, such as:

- Control plane security
- Data plane protection
- Secure routing protocols
- Network segmentation strategies

These skills complement the **ccnp encor syllabus** security fundamentals.

5. Advanced Troubleshooting Techniques

Troubleshooting is a defining element of **ccnp enarsi topics**. Candidates must demonstrate the ability to:

- Diagnose complex routing issues
- Troubleshoot enterprise services
- Analyze traffic flow and failures
- Resolve real-world enterprise incidents

What ENCOR and ENARSI Cover and How to Prepare

Understanding **what ENCOR and ENARSI cover and how to prepare** is key to passing both exams efficiently.

ENCOR covers breadth — architecture, infrastructure, security, and automation. ENARSI covers depth — advanced routing and troubleshooting. Together, they form a complete **ccnp syllabus overview** that aligns closely with enterprise networking job roles.

Preparation Strategy

- Start with the **ccnp encor syllabus** to build a strong foundation
- Move to **ccnp enarsi topics** once core concepts are clear
- Focus on hands-on labs and real-world scenarios
- Practice troubleshooting-based thinking
- Review all **Cisco CCNP exam topics** thoroughly

A structured approach ensures success across both exams.

CCNP 300-401 ENARSI Course Modules

- **Module 1: Layer 3 Technologies**
- 1.1 Troubleshoot administrative distance (all routing protocols)

- 1.2 Troubleshoot route map for any routing protocol (attributes, tagging, filtering)
- 1.3 Troubleshoot loop prevention mechanisms (filtering, tagging, split horizon, route poisoning)
- 1.4 Troubleshoot redistribution between any routing protocols or routing sources
- 1.5 Troubleshoot manual and auto-summarization with any routing protocol
- 1.6 Configure and verify policy-based routing
- 1.7 Configure and verify VRF-Lite
- 1.8 Describe Bidirectional Forwarding Detection
- 1.9 Troubleshoot EIGRP (classic and named mode; VRF and global)
 - 1.9.a Address families (IPv4, IPv6)
 - 1.9.b Neighbor relationship and authentication
 - 1.9.c Loop-free path selections (RD, FD, FC, successor, feasible successor, stuck in active)
 - 1.9.d Stubs
 - 1.9.e Load balancing (equal and unequal cost)
 - 1.9.f Metrics
- 1.10.a Address families (IPv4, IPv6)
 - 1.10.b Neighbor relationship and authentication
 - 1.10.c Network types, area types, and router types
 - 1.10.c.i Point-to-point, multipoint, broadcast, nonbroadcast
 - 1.10.c.ii Area type: backbone, normal, transit, stub, NSSA, totally stub
 - 1.10.c.iii Internal router, backbone router, ABR, ASBR
 - 1.10.c.iv Virtual link
 - 1.10.d Path preference
- 1.11 Troubleshoot BGP (Internal and External, unicast, and VRF-Lite)

- 1.11.a Address families (IPv4, IPv6)
- 1.11.b Neighbor relationship and authentication (next-hop, multihop, 4-byte AS, private AS, route refresh, synchronization, operation, peer group, states and timers)
- 1.11.c Path preference (attributes and best path)
- 1.11.d Route reflector (excluding multiple route reflectors, confederations, dynamic peer)
- 1.11.e Policies (inbound/outbound filtering, path manipulation)
- **Module 2: VPN Technologies**
- 2.1 Describe MPLS operations (LSR, LDP, label switching, LSP)
- 2.2 Describe MPLS Layer 3 VPN
- 2.3 Configure and verify DMVPN (single hub)
- 2.3.a GRE/mGRE
- 2.3.b NHRP
- 2.3.c IPsec
- 2.3.d Dynamic neighbor
- 2.3.e Spoke-to-spoke
- **Module 3: Infrastructure Security**
- 3.1 Troubleshoot device security using IOS AAA (TACACS+, RADIUS, local database)
- 3.2 Troubleshoot router security features
- 3.2.a IPv4 access control lists (standard, extended, time-based)
- 3.2.b IPv6 traffic filter
- 3.2.c Unicast reverse path forwarding (uRPF)
- 3.3 Troubleshoot control plane policing (CoPP) (Telnet, SSH, HTTP(S), SNMP, EIGRP, OSPF, BGP)
- 3.4 Describe IPv6 First Hop security features (RA guard, DHCP guard, binding table, ND inspection/snooping, source guard)

- **Module 4: Infrastructure Services**
- 4.1 Troubleshoot device management
 - 4.1.a Console and VTY
 - 4.1.b Telnet, HTTP, HTTPS, SSH, SCP
 - 4.1.c (T)FTP
- 4.2 Troubleshoot SNMP (v2c, v3)
- 4.3 Troubleshoot network problems using logging (local, syslog, debugs, conditional debugs, timestamps)
- 4.4 Troubleshoot IPv4 and IPv6 DHCP (DHCP client, IOS DHCP server, DHCP relay, DHCP options)
- 4.5 Troubleshoot network performance issues using IP SLA (jitter, tracking objects, delay, connectivity)
- 4.6 Troubleshoot NetFlow (v5, v9, flexible NetFlow)
- 4.7 Troubleshoot network problems using Cisco DNA Center assurance (connectivity, monitoring, device health, network health).