

# ENCOR – CCNP Enterprise



## Online Course

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## Course Modules

### 1. Explain the diff't design principles used in an enterprise network

- High-level enterprise network design such as 2-tier, 3-tier, fabric, etc
- High availability techniques such as redundancy, FHRP, and SSO

### 2. Describe wireless network design principles

- Wireless deployment models (centralized, distributed,)
- Location services in a WLAN design
- Client density

### 3. Explain the working principles of the Cisco SD-WAN solution

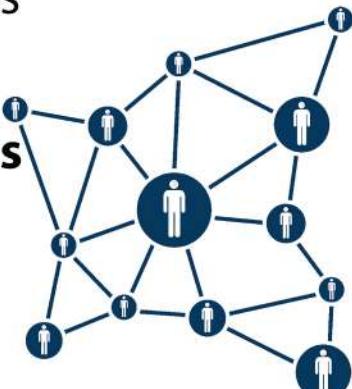
- SD-WAN control and data planes elements
- Benefits and limitations of SD-WAN solutions

### 4. Explain the working principles of the Cisco SD-Access solution

- SD-Access control and data planes elements
- Traditional campus interoperating with SD-Access

### 5. Interpret wired and wireless QoS configurations

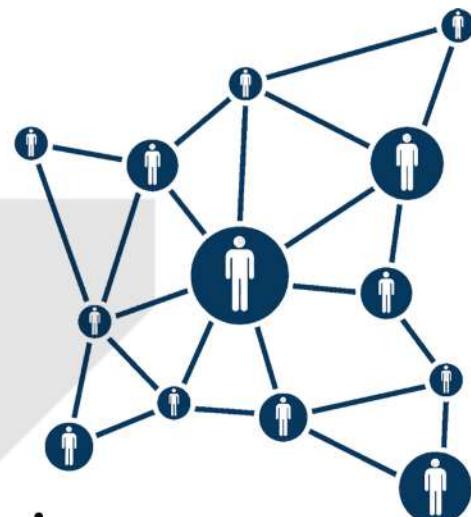
- QoS components
- QoS policy



## Course Modules

### 6. Describe hardware and software switching mechanisms

- CEF
- CAM
- TCAM
- FIB
- RIB
- Adjacency Tables



### 7. Describe device virtualization technologies

- Hypervisor type 1 and 2
- Virtual machine
- Virtual switching

### 8. Configure and verify data path virtualization technologies

- VRF
- GRE and IPsec Tunnelling

### 9. Describe network virtualization concepts

- LISP
- VXLAN

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## 10. Layer 2

- Troubleshoot static and dynamic 802.1q trunking protocols
- Troubleshoot static and dynamic Ether Channels
- Configure and verify common Spanning Tree Protocols & Spanning



## 11. Layer 3

- Compare routing concepts of EIGRP and OSPF
- Configure simple OSPFv2/v3 environments,
- Configure and verify eBGP between directly connected neighbors
- Describe policy-based routing

## 12. Wireless

- Describe Layer 1 concepts, such as RF power, RSSI, SNR,etc.,
- Describe AP modes and antenna types
- Describe access point discovery and join process
- Dscrub the main princpls & use cases for Layer 2 and Layer 3 roaming
- Troubleshoot WLAN config & wireless client connectivity issues
- Describe wireless segmentation with groups, profiles, and tags

## 13. IP Services

- Interpret network time protocol configurations such as NTP & PTP
- Configure NAT/PAT
- Configure first hop redundancy protocols, such as HSRP, VRRP
- Describe multicast protocols, such as RPF check, PIM & IGMP v2/v3



## 14. Network Assurance

- Diagnose network problems using tools such as debugs, etc
- Configure and verify Flexible NetFlow
- Configure SPAN/RSPAN/ERSPAN
- Configure and verify IPSLA
- Describe Cisco DNA Centre workflows to apply network config
- Configure and verify NETCONF and RESTCONF

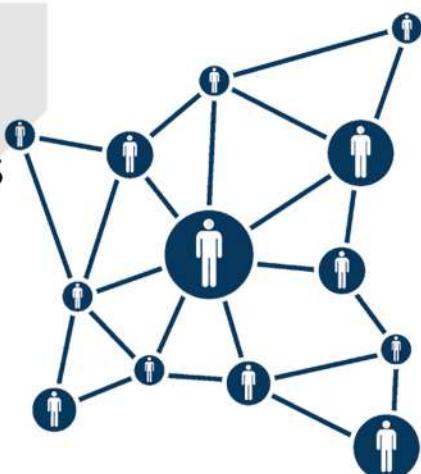
## 15. Automation

- Interpret basic Python components and scripts
- Construct valid JSON-encoded files
- High-level principles and benefits of a data modelling lang
- Describe APIs for Cisco DNA Center and vManage
- Interpret REST API response codes and results in payload
- Construct an EEM applet to automate config, troubleshooting
- Compare agent vs. agentless orchestration tools



## 15. Security

- Configure and verify device access control
- Lines and local user authentication
- Authentication and authorization using AAA
- Configure and verify infrastructure security features
- ACLs
- CoPP
- Describe REST API security
- Configure and verify wireless security features
- 802.1X
- WebAuth
- PSK
- EAPOL (4-way handshake)
- Describe the components of network security design
- Threat defense
- Endpoint security
- Next-generation firewall
- TrustSec and MACsec
- Network access control with 802.1X, MAB, and WebAuth



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