



CCNA Network Fundamentals Course Syllabus

Chapter 1: Living in a Network-Centric World

- 1.1: Communicating in a Network-Centric World
- 1.2: Communication- An Essential Part of our Lives
- 1.3: The Network as a Platform
- 1.4: The Architecture of the Internet
- 1.5: Trends in Networking
- 1.6: Chapter Labs
- 1.7: Summary
- 1.8: Chapter Quiz

Chapter 2: Communicating Over the Network

- 2.1: The Platform for Communications
- 2.2: LANS, WANS, and Internetworks
- 2.3: Protocols
- 2.4: Using Layered Models
- 2.5: Network Addressing
- 2.6: Chapter Labs
- 2.7: Chapter Summary
- 2.8: Chapter Quiz

Chapter 3: Application Layer Functionality and Protocols

- 3.1: Applications- The Interface between the Networks
- 3.2: Making Provisions for Applications and Services
- 3.3: Application Layer Protocols and Service Examples
- 3.4: Chapter Labs and Activities
- 3.5: Chapter Summary
- 3.6: Chapter Quiz

Chapter 4: OSI Transport Layer

- 4.1: Roles of the Transport Layer
- 4.2: The TCP Protocol- Communicating with Reliability
- 4.3: Managing TCP Sessions
- 4.4: The UDP Protocol- Communicating with Low Overhead
- 4.5: Lab Activities
- 4.6: Chapter Summary
- 4.7: Chapter Quiz

Chapter 5: OSI Network Layer

- 5.1: Ipv4
- 5.2: Networks- Dividing Hosts into Groups
- 5.3: Routing- How our Data Packets are handled
- 5.4: Routing Processes- How Routes are learned
- 5.5: Lab Activities
- 5.6: Chapter Summary
- 5.7: Chapter Quiz

Chapter 6: Addressing the Network- IPv4

- 6.1: IPv4 Addresses
- 6.2: Addresses for Different Purposes
- 6.3: Assigning Addresses
- 6.4: Is it on my Network?
- 6.5: Calculating Addresses
- 6.6: Testing the Network Layer
- 6.7: Labs and Activities
- 6.8: Chapter Summary
- 6.9: Chapter Quiz

Chapter 7: Data Link Layer

- 7.1: Data Link Layer- Accessing the Media
- 7.2: Media Access Control Techniques
- 7.3: Media Access Control Addressing and Framing Data
- 7.4: Putting it all Together
- 7.5: Labs and Activities
- 7.6: Chapter Summary
- 7.7: Chapter Quiz

Chapter 8: OSI Physical Layer

- 8.1: The Physical Layer- Communication Signals
- 8.2: Physical Signaling and Encoding: Representing Bits
- 8.3: Physical Media- Connecting Communication
- 8.4: Lab- Media Connectors
- 8.5: Chapter Summaries
- 8.6: Chapter Quiz

Chapter 9: Ethernet

- 9.1: Overview of Ethernet
- 9.2: Ethernet- Communication Through the LAN
- 9.3: The Ethernet Frame
- 9.4: Ethernet Media Access Control
- 9.5: Ethernet Physical Layer
- 9.6: Hubs and Switched
- 9.7: Address Resolution Protocol
- 9.8: Chapter Labs
- 9.9: Chapter Summary
- 9.10: Chapter Quiz

Chapter 10: Planning and Cabling Networks

- 10.1: LANS- Making the Physical Connection
- 10.2: Device Interconnections
- 10.3: Developing an Addressing Scheme
- 10.4: Calculating the Subnets
- 10.5: Device Interconnections
- 10.6: Chapter Labs
- 10.7: Chapter Summary

10.8: Chapter Quiz

Chapter 11: Configuring and Testing Your Network

- 11.1: Configuring Cisco Devices- IOS Basics
- 11.2: Applying a Basic Configuration Using Cisco IOS
- 11.3: Verifying Connectivity
- 11.4: Monitoring and Documenting of Networks
- 11.5: Lab Activity
- 11.6: Summary
- 11.7: Chapter Quiz

CCNA Routing Protocols and Concepts Course Syllabus

Chapter 1: Introduction to Packet and Routing forwarding

- 1.1-Inside the router
- 1.2-CLI Configuration and addressing
- 1.3-Building the Routing Table
- 1.4-Path Determination and Switching Functions
- 1.5-Router Configuration Labs
- 1.6-Chapter Summary
- 1.7-Chapter Quiz

Chapter 2: Static Routing

- 2.1- Routers and Network
- 2.2- Router Configuration Review
- 2.3- Exploring Directly Connected Networks
- 2.4- Static Routes with “Next Hop” Addresses
- 2.5- Static Routes with Exit Interfaces
- 2.6- Summary and Default Static Routes
- 2.7- Managing and Troubleshooting Static Routes
- 2.8- Static Routes Configuration Labs
- 2.9- Chapter Summary
- 2.10- Chapter Quiz

Chapter 3: Introduction to Dynamic Routing Protocols

- 3.1- Introduction and Advantages
- 3.2- Classifying Dynamic Routing Protocols
- 3.3- Metrics
- 3.4- Administrative Distances
- 3.5- Routing Protocols and Subnetting Activities

3.6- Chapter Summary

3.7- Chapter Quiz

Chapter 4: Distance Vector Routing Protocols

4.1- Introduction to Distance Vector Routing Protocols

4.2- Network Discovery

4.3- Routing Table Maintenance

4.4- Routing Loops

4.5 Distance Vector Routing Protocols today

4.6- Lab Activities

4.7- Chapter Summary

4.8- Chapter Quiz

Chapter 5: RIP version 1

5.1-RIPv1: Distance Vector, Classful Routing Protocol

5.2- Basic RIPv1 Configuration

5.3- Verification and Troubleshooting

5.4- Automatic Summarization

5.5- Default Route and RIPv1

5.6- RIPv1 Configuration Labs

5.7- Chapter Summary

5.8- Chapter Quiz

Chapter 6: VLSM and CIDR

6.1- Classful and Classless Addressing

6.2- VLSM

6.3- CIDR

6.4- VLSM and Route Summarization Activity

6.5- Chapter Summary

6.6- Chapter Quiz

Chapter 7: RIPv2

7.1- RIPv1 Limitations

7.2- Configuring RIPv2

7.3- VLSM and CIDR

7.4- Verifying and Troubleshooting RIPv2

7.5- RIPv2 Configuration Labs

7.6- Chapter Summary

7.7- Chapter Quiz

Chapter 8: The Routing Table: A Closer Look

8.1- The Routing Table Structure

8.2- Routing Table Lookup Process

- 8.3- Routing Behavior
- 8.4- Routing Table Labs
- 8.5- Chapter Summary
- 8.6- Chapter Quiz

Chapter 9: EIGRP

- 9.1- Introduction to EIGRP
- 9.2- Basic EIGRP Configuration
- 9.3- EIGRP Metric Calculation
- 9.4- DUAL
- 9.5- More EIGRP Configurations
- 9.6- EIGRP Configuration Labs
- 9.7- Chapter Summary
- 9.8- Chapter Quiz

Chapter 10: Link- State Routing Protocols

- 10.1- Link-State Routing
- 10.2- Implementing Link-State Routing Protocols
- 10.3- Chapter Summary
- 10.4- Chapter Quiz

Chapter 11: OSPF

- 11.1- Introduction to OSPF
- 11.2- Basic OSPF Configuration
- 11.3- The OSPF Metric
- 11.4- OSPF and Multi-access Networks
- 11.5- More OSPF Configuration
- 11.6- OSPF Configuration Labs
- 11.7- Chapter Summary
- 11.8- Chapter Quiz

CCNA LAN Switching and Wireless Course Syllabus

Chapter 1- Lan Design

- 1.1- Switched LAN Architecture
- 1.2- Matching switches to specific Lan Functions
- 1.3- Chapter Labs
- 1.4- Chapter Summary
- 1.5- Chapter Quiz

Chapter 2- Basic Switch Concepts and Configuration

- 2.1- Introduction to Ethernet/802.3 LANs
- 2.2- Forwarding frames using a switch
- 2.3- Switch management configuration
- 2.4- Configuring switch security
- 2.5- Chapter Labs
- 2.6- Chapter summary
- 2.7- Chapter Quiz

Chapter 3- VLANs

- 3.1- Introducing vlans
- 3.2- Vlan trunking
- 3.3- Configuring VLANs and Trunks
- 3.4- Troubleshooting VLANs and Trunks
- 3.5- Chapter Labs
- 3.6- Chapter Summary
- 3.7- Chapter Quiz

Chapter 4- VTP

- 4.1- Vtp concepts
- 4.2- Vtp operation
- 4.3- Configure vtp
- 4.4- Chapter labs
- 4.5- chapter Summary
- 4.6- Chapter Quiz

Chapter 5- STP

- 5.1- Redundant Layer 2 Topologies
- 5.2- Introduction to STP
- 5.3- STP convergence
- 5.4- PVST+, RSTP and Rapid-PVST+
- 5.5- Chapter Labs
- 5.6- Chapter Summary
- 5.7- Chapter Quiz

Chapter 6- Inter-VLAN Routing

- 6.1- Inter-VLAN Routing
- 6.2- Configuring Inter-VLAN Routing
- 6.3- Troubleshooting Inter-VLAN Routing
- 6.4- Chapter Labs
- 6.5- Chapter Summary

6.6- Chapter Quiz

Chapter 7- Basic Wireless Concepts and Configuration

7.1- The Wireless Lan

7.2- Wireless LAN Security

7.3- Configuring a Wireless NIC

7.4- Troubleshooting Simple WLAN problems

7.5- Chapter Labs

7.6- Chapter Summary

7.7- Chapter Quiz

CCNA Accessing the WAN Course Syllabus

Chapter 1- Introduction to WANs

1.1-Providing Integrated Services to the Enterprise

1.2-WAN Technology Concepts

1.3-WAN Connection Options

1.4-Chapter Labs

1.5-Chapter Summary

1.6-Chapter Quiz

Chapter 2-PPP

2.1- Serial Point-to-Point Links

2.2-PPP Concepts

2.3-Configuring PPP

2.4-Configuring PPP with Authentication

2.5-Chapter Labs

2.6-Chapter Summary

2.7-Chapter Quiz

Chapter 3-Frame Relay

3.1-Basic Frame Relay Concepts

3.2-Configuring Frame Relay

3.3-Advanced Frame Relay Concepts

3.4-Configuring Advanced Frame Relay

3.5-Chapter Labs

3.6-Chapter Summary

3.7-Chapter Quiz

Chapter 4-Network Security

4.1-Introduction to Network Security

4.2-Securing Cisco Routers

4.3-Secure Router Network Services

4.4-Using Cisco SDM

4.5-Secure Router Management

4.6-Chapter Labs

4.7-Chapter Summary

4.8-Chapter Quiz

Chapter 5-ACLs

5.1-Using ACLs to Secure Networks

5.2-Configuring Standard ACLs

5.3-Configuring Extended ACLs

5.4-Configure Complex ACLs

5.5-Chapter Labs

5.6-Chapter Summary

5.7-Chapter Quiz

Chapter 6- Teleworker Services

6.1-Business Requirements for Teleworker Services

6.2-Broadband Services

6.3-VPN Technology

6.4-Chapter Summary

6.5-Chapter Quiz

Chapter 7-IP Addressing Services

7.1-DHCP

7.2-Scaling Networks with NAT

7.3-IPv6

7.4-Chapter Labs

7.5-Chapter Summary

7.6-Chapter Quiz

Chapter 8-Network Troubleshooting

8.1-Establishing the Network Performance Baseline

- 8.2-Troubleshooting Methodologies and Tools
- 8.3-Common WAN Implementation Issues
- 8.4-Network Troubleshooting
- 8.5-Chapter Labs
- 8.6-Chapter Summary
- 8.7-Chapter Quiz