



CCNA Exploration



Cisco | Networking Academy®
Mind Wide Open™

CCNA Exploration Overview

- Allows students to learn skills in a rigorous, comprehensive, theoretical, and practical way
- Uses language that allows for integration with other engineering concepts
- Includes complex and challenging hands-on labs
 - Students must derive final solutions without step-by-step instructions and may need to conduct additional research
- Includes embedded e-doing, which applies the principle that people learn best by interacting with computer-based activities
 - Interactive learning promotes the exploration of networking concepts and experimentation
 - Tools such as Packet Tracer and Flash-based activities help students develop a greater understanding of networking technologies
- Introduces advanced technologies such as voice, video, wireless, and security

CCNA Exploration Course Outline

Ch	Network Fundamentals	Routing Protocols and Concepts	LAN Switching and Wireless	Accessing the WAN
1	Living in a Network-Centric World	Introduction to Routing and Packet Forwarding	LAN Design	Introduction to WANS
2	Communicating over the Network	Static Routing	Basic Switch Concepts and Configuration	PPP
3	Application Layer Functionality and Protocols	Introduction to Dynamic Routing Protocols	VLANs	Frame Relay
4	OSI Transport Layer	Distance Vector Routing Protocols	VTP	Network Security
5	OSI Network Layer	RIP Version 1	STP	ACLs
6	Addressing the Network—IPv4	VLSM and CIDR	Inter-VLAN Routing	Teleworker Services
7	Data Link Layer	RIPv2	Basic Wireless Concepts and Configuration	IP Addressing Services
8	OSI Physical Layer	The Routing Table: A Closer Look		Network Troubleshooting
9	Ethernet	EIGRP		
10	Planning and Cabling Your Network	Link-State Routing Protocols		
11	Configuring and Testing Your Network	OSPF		

CCNA Exploration Goals

<p>Network Fundamentals</p>	<p>Use Layered Models to Explain Data Networks. Explain Role of Protocols in Data Network Communications</p> <p>Describe the Protocols and Services Provided by Application, Network, Data, and Physical Layers of the OSI Model</p> <p>Design, Calculate, and Apply IP Addresses and Subnet Masks to Fulfill Network Requirements</p> <p>Explain Fundamental Ethernet Concepts, Media, Services, and Operation</p> <p>Build a Simple Ethernet Network Using Routers and Switches</p>
<p>Routing Protocols and Concepts</p>	<p>Describe the Purpose, Nature, and Operations of Routers. Describe the Purpose and Nature of Routing Tables. Configure and Verify Router Interfaces.</p> <p>Describe Class-Full and Classless Routing Behavior in Routed Networks. Design and Implement a Classless IP Addressing Scheme for a Given Network.</p> <p>Describe Dynamic Routing. Describe and Compare Distance Vector and Link State Protocols</p> <p>Configure and Verify Basic RIPv1, RIPv2, Single Area OSPF, and EIGRP Operations in a Small Routed Network</p>
<p>LAN Switching and Wireless</p>	<p>Learn the Skills, Technologies, and Protocols Needed to Design and Implement a Converged Switched Network</p> <p>Configure a Switch for Basic Functionality</p> <p>Implement Virtual LANs, VTP and Inter-VLAN Routing</p> <p>Perform Different Implementations of Spanning Tree Protocol (i.e., IEEE 802.1D, PVST+, RSTP, PVRST+)</p>
<p>Accessing the WAN</p>	<p>Learn the WAN Technologies, Devices, and Services Required for Converged Network and Internet Communications</p> <p>Implement and Configure Common Data Link Protocols Used in Enterprise Networks Including ATM, Ethernet, Frame Relay, HDLC, and PPP</p> <p>Analyze WAN Vulnerabilities and Threats and Implement Preventive Security Technologies</p> <p>Implement IP Addressing Services for an Enterprise Network, Including NAT and DHCP</p> <p>Implement Access Control Lists for Traffic Control</p>

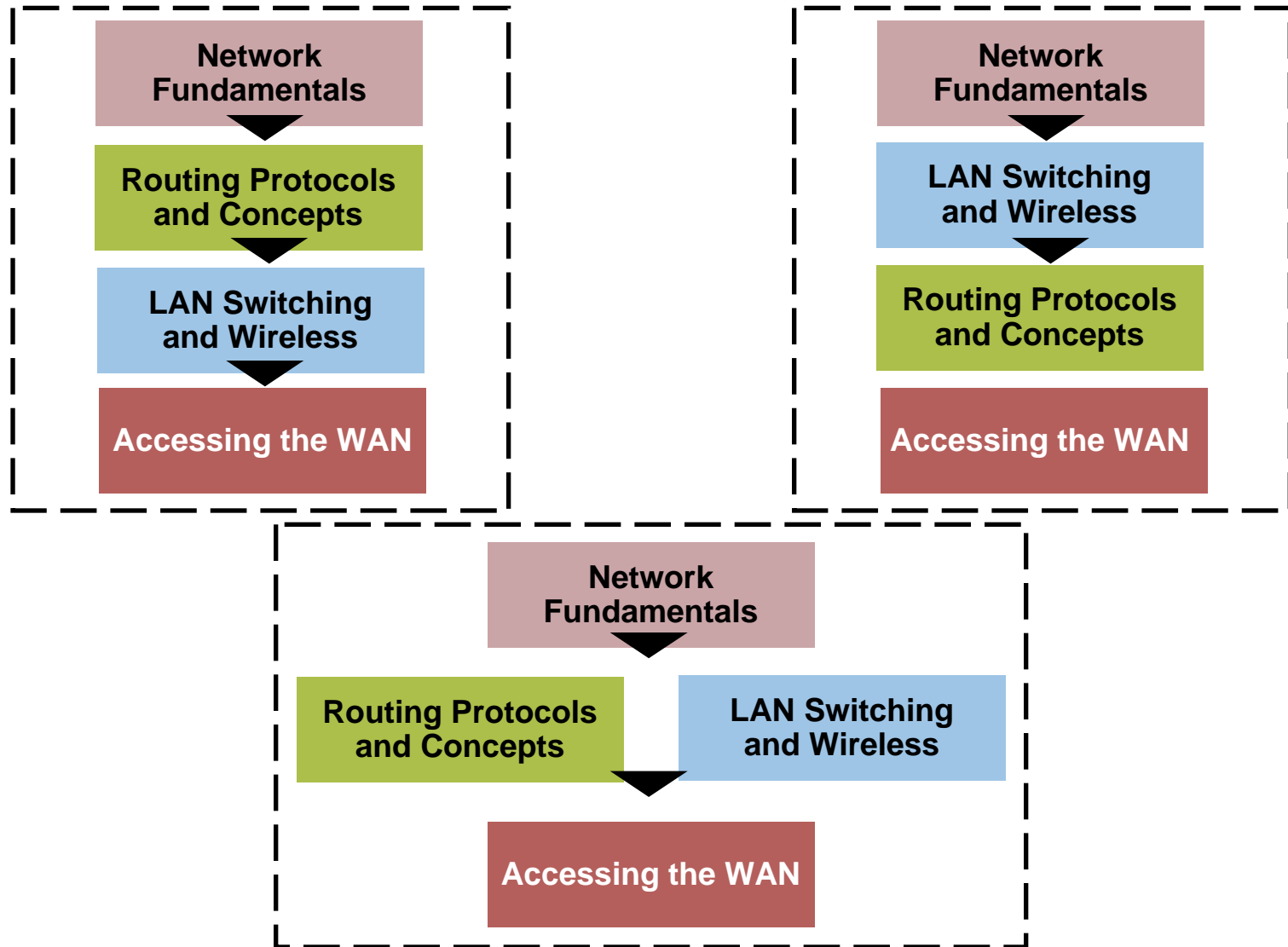
*See CCNA Exploration Scope and Sequence for Complete List of Curriculum Goals

CCNA Exploration Instructional Methodology

Skill	Network Fundamentals	Routing Protocols and Concepts	LAN Switching and Wireless	Accessing the WAN
Routing	Introduces IP Protocol, IP Addressing and Concept of Routing. Basic Cisco IOS® Commands to Configure Router and Router Interfaces. Explore Routing Tables.	Focuses on Routing and Routers. Teaches Details on How to Configure, Verify, and Troubleshoot Multiple Routing Protocols Including RIPv1 and V2, EIGRP, OSPF, and BGP.		
Switching	Concepts of Ethernet, Switching, and Switches. Services Offered by the Data Link Layer. Basic Cisco IOS Commands Used in Switches.		Technologies and Protocols to Design and Implement a Converged Switched Network. Configure a Switch for Basic Functionality. Configure, Verify, and Troubleshoot Virtual LANs, VTP, and Inter-VLAN Routing. Implement Spanning Tree (IEEE 802.1D, PVST+, RSTP, PVRST+).	WAN Technologies and Devices Required for Network and Internet Communications. Implement Data Link Protocols Including PPP, ATM, Ethernet, Frame Relay, HDLC.
Addressing	Network Addressing. Assign IP Addresses to Network and Devices. Class-full and Classless Addresses. Use of the Network Mask and the Prefix Length. Concept of VLSM.	Detail Review of the Concepts of Classless Interdomain Routing (CIDR) and Variable Subnet Masking (VLSM)		Implement IP Addressing Services for an Enterprise Network, Including NAT and DHCP. IPv6 Addressing Concepts. Use of Cisco SDM to Implement IP Addressing Services and ACLs.
Other	Application and Transport Protocols. Interaction of Protocols Services and Applications. Design, Cable, Connect, and Configure a Small Network Using Basic Cisco IOS Commands for Routers and Switches.		Components and Operation of Wireless LANs (WLANs). Configure, Verify, and Troubleshoot Basic WLAN Access and Security.	Implement VPN. Analyze Network Vulnerabilities and Implement Security Technologies ... Implement ACLs for Traffic Control Detect, Troubleshoot, and Correct Common Enterprise Network Implementation Issues.



CCNA Exploration: Flexibility in Course Sequence



Instructor Feedback

It Is a great improvement compared to 3.1, more hands-on labs, PT activities, the whole course a very significant improvement

This course will not only prepare students for the CCNA exam, but It will give them marketable skills

This is so much better than v3.1!

This Is high-quality material and the course will develop student skills to help their understanding for networking
It will prepare well for external certification
The course will be a pleasure to teach

Great Adoption!

- Academies teaching CCNA Exploration
 - Globally—2228
 - US/C—950
- Students enrolled in CCNA Exploration
 - Globally—49,700
 - US/C—14,632
- More students enrolled than in CCNA v3.1
 - 110,000+ active students enrolled in CCNA Discovery or CCNA Exploration Course 1 vs. 109,000 in CCNA v3.1 Course 1

Source: BI Dashboard, Snapshot as of May, 2008; MRE Report 2881, May 26, 2008

What's Next?

- Packet Tracer ... v5.0 coming July 2008
- Accessibility version ... July 2008
- Assessments ...
 - Multiple forms for summative assessment
 - Use of rich media and simulation
 - Certification practice exams
- Server/labs ... simple packaging and installation of servers; revisit lab composition and structure
- Translations ...
 - 16 CCNA Discovery courses released (29 including CCNA Exploration and ITE PC)
 - 40 more courses across 16 languages in progress
 - More information on Academy Connection -> Library -> Curricula
 - Globalization

Best Practices



Q and A



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