



# CCNA Discovery



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# CCNA Discovery Overview

- Maps to everyday experiences with networks and covers key networking concepts based on the types of practical network environments students may encounter
  - From small office and home office (SOHO) networking to more complex enterprise and theoretical networking models later in the curriculum
- Evolves from directed to open-ended labs as students progress through the curricula; soft skills and building a design portfolio are emphasized in last semester
- Provides general theory; and offers a career-oriented approach to learning networking
- 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 Discovery Course Outline

Ch	Networking for Home and Small Businesses	Working at a Small-to-Medium Business or ISP	Introducing Routing and Switching in the Enterprise	Designing and Supporting Computer Networks
1	Personal Computer Hardware	The Internet and Its Uses	Networking in the Enterprise	Introducing Network Design Concepts
2	Operating Systems	Help Desk	Exploring the Enterprise Network Infrastructure	Gathering Network Requirements
3	Connecting to the Network	Planning a Network Upgrade	Switching in an Enterprise Network	Characterizing the Existing Network
4	Connecting to the Internet Through an ISP	Planning the Addressing Structure	Addressing in an Enterprise Network	Identifying Application Impacts on Network Design
5	Network Addressing	Configuring Network Devices	Routing with a Distance Vector Protocol	Creating the Network Design
6	Network Services	Routing	Routing with a Link-State Protocol	Using IP Addressing in the Network Design
7	Wireless Technologies	ISP Services	Implementing Enterprise WAN Links	Prototyping the Campus Network
8	Basic Security	ISP Responsibility	Filtering Traffic Using Access Control Lists	Prototyping the WAN
9	Troubleshooting Your Network	Troubleshooting	Troubleshooting an Enterprise Network	Preparing the Proposal
10	Course Summary: Putting It All Together	Course Summary: Putting It All Together	Course Summary: Putting It All Together	Course Summary: Putting It All Together

# CCNA Discovery Goals

<p>Networking for Home and Small Businesses</p>	<ul style="list-style-type: none"> <li>Set Up a Personal Computer System, Interface Cards, and Peripheral Devices</li> <li>Plan and Install a Home or Small Business Network and Connect It to the Internet</li> <li>Verify and Troubleshoot Network and Internet Connectivity</li> <li>Recognize and Mitigate Security Threats to the Home Network</li> <li>Configure Basic IP Services Through a GUI Interface</li> </ul>
<p>Working at a Small-to-Medium Business or ISP</p>	<ul style="list-style-type: none"> <li>Describe the Structure of the Internet and How Communication Occurs Between Hosts</li> <li>Install, Configure, and Troubleshoot Cisco IOS® Devices for Internet and Server Connectivity</li> <li>Implement Basic WAN Connectivity Using Telco Services</li> <li>Troubleshoot Problems Using an Organized, Layered Procedure</li> <li>Describe the OSI Model and the Process of Encapsulation</li> </ul>
<p>Introducing Routing and Switching in the Enterprise</p>	<ul style="list-style-type: none"> <li>Implement a LAN Given an Approved Network Design</li> <li>Configure a Switch with VLANs and Inter-Switch Communication</li> <li>Configure EIGRP and OSPF on Cisco Devices</li> <li>Implement Access Control Lists to Permit or Deny Specified Traffic</li> <li>Perform LAN, WAN, and VLAN Troubleshooting Using a Structured Methodology and the OSI Model</li> </ul>
<p>Designing and Supporting Computer Networks</p>	<ul style="list-style-type: none"> <li>Gather Customer Requirements</li> <li>Design a Simple Internetwork with Cisco Technology</li> <li>Design an IP Addressing Scheme to Meet LAN Requirements</li> <li>Create and Present a Proposal to a Customer</li> <li>Install and Configure a Prototype Internetwork</li> <li>Obtain and Upgrade Cisco IOS Software</li> </ul>

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

# CCNA Discovery Instructional Methodology

Skill	Networking for Home or Small Businesses	Working at a Small-to-Medium Business or ISP	Introducing Routing and Switching in the Enterprise	Designing and Supporting Computer Networks
Routing	Routing Table Operation	Introduce Protocols; Configure Routes and Routers	Configure VLAN, RIPv2, EIGRP, OSPF	Design, Configure, and Test EIGRP and OSPF
Switching	Introduce and Practice Broadcast Domain, Switch Operation, MAC Address Table Concepts	Configure Switch Management Interface and Port Security, Configure and Connect Switches	Configure VLAN Membership, Spanning Tree, 802.1q Trunking Operation	Design and Prototype Access Layer Switched Network, Configure, and Verify Switch Operations
Addressing	Implement IP Addressing, DHCP Configuration, and NAT Operation	Intro and Practice Subnets, Classless IP Addressing and Routing, VLSM, Subnetting Methods, IPv6	Reinforce VLSM, Introduce Route Summarization and Aggregation	Review and Expand IPv6; IP Addressing Design and Configuration
ACLs			Verify, Implement, and Troubleshoot ACLs in the Enterprise	Review ACLs and Use to Incorporate Security in a Branch Office Network

# CCNA Discovery Course 2 v4.1 Revisions

- New chapter on troubleshooting and preparing for CCENT certification
- Expanded focus on Cisco IOS router management

Course	1 New Chapter—Chapter 9 4 Chapter Revised—Chapters 4-8
Instructor Training	Updated ICG, IRG, PPT Slides
Labs/Activities	~17 New or Modified Labs, Most in New Chapter
Assessments	1 Chapter—New Quiz and Chapter Exam 2 Chapters—New Claims
Packet Tracer	No Changes to PT v4.11 Software ~12 New or Modified PT Activities, Mostly in Chapter 9
SBAs	No Changes
Discovery Server	No Changes
Equipment	No Changes

# Instructor Feedback

This course is relatively easy to understand, less lecture time is needed and more time can be allocated for actual practice/labs.

It's exciting to see a course that will not turn off the students because of the level of difficulty, but will instead make them think about their current setups at home and in school, and enjoin them to explore further and deeper into the technology.

**It is great—much better than the 3.0/3.1; Lots of good information that is explained well. There are also a lot of good resources.**

It is exciting, engaging, and does a fantastic job in delivering the necessary content to meet the new CCNA objectives as well as teaching how to design, build, and maintain networks.

# Great Adoption!

- Academies teaching CCNA Discovery

  - Globally—2228

  - US/C—950

- Students enrolled in CCNA Discovery

  - 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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