The New CCNA Routing and Switching Curriculum

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CCNA Routing and Switching Curriculum

- A set of 7 courses
- Align to CCENT and CCNA Routing and Switching certifications
- Major content revision to incorporate technology changes
- Improved instructional design
- Technically equivalent
- Flexibly supports different learning and teaching options
Improved Chapter Learning Progressions

CCNA Routing & Switching

- Simple chapter introduction
- Lots of labs and PT activities to choose from (can’t possibly do all)
- Increasingly open-ended activities across courses

Chapter introduction includes an activity to set the stage how new concept build on previous chapters and why it is important

- Skills acquisition through carefully selected progression of activities
- Develops competency through increasingly faded scaffolding
- Culminating skills integration activity

Putting latest learning research into practice
Improved Student Success
# Teaching IPv6 and IPv4 Together

Integrate IPv6 content with IPv4

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Routing Protocols</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Routing Concepts</td>
</tr>
<tr>
<td>2</td>
<td>Static Routing</td>
</tr>
<tr>
<td>3</td>
<td>Routing Dynamically</td>
</tr>
<tr>
<td>4</td>
<td>EIGRP</td>
</tr>
<tr>
<td>4.1</td>
<td>Characteristics of EIGRP</td>
</tr>
<tr>
<td>4.2</td>
<td>Operation of EIGRP</td>
</tr>
<tr>
<td>4.3</td>
<td>Configuring EIGRP for IPv4</td>
</tr>
<tr>
<td>4.4</td>
<td>Configuring EIGRP for IPv6</td>
</tr>
<tr>
<td>5</td>
<td>Advanced EIGRP Configurations</td>
</tr>
<tr>
<td>6</td>
<td>Single-Area OSPF</td>
</tr>
<tr>
<td>6.1</td>
<td>Characteristics and Operation of OSPF</td>
</tr>
<tr>
<td>6.2</td>
<td>Configuring Single-area OSPFv2 for IPv4</td>
</tr>
<tr>
<td>6.3</td>
<td>Configuring Single-area OSPFv3 for IPv6</td>
</tr>
<tr>
<td>7</td>
<td>Adjust and Troubleshoot Singles-Area OSPF</td>
</tr>
<tr>
<td>8</td>
<td>Multi-Area OSPF</td>
</tr>
</tbody>
</table>
More Feedback-Driven Learning Using Canvas Quizzes and Question Banks

Meta-tags to Identify Content

Refer to the exhibit. Which expression best describes the pattern that is shown?

- a Quick Response code, which may represent a link to a download or website
- a 3D pattern that helps visually impaired users
- a standard bar code that indicates the price of an app
- the camera calibration pattern of a mobile device

Refer to curriculum topic 8.2.1. A Quick Response (QR) code is a type of barcode that is designed to be scanned by the camera of a mobile device. The code can contain a variety of information such as links to websites and links to automatic app downloads.

Modifiable quizzes and quiz banks

Feedback for learning
What We Have Said So Far …

- Everyday experiences
- OSI model bottom up

- Business applications
- OSI model top down

CCENT
- Routing & Switching Essentials
- Scaling Networks

CCNA R&S
- Connecting Networks

Introduction to Networks
Network Basics
Routing Protocols
Switched Networks
Additional Considerations

Increased Demand for Introductory Course and CCENT

- Non-traditional engineering curricula
- Baseline knowledge for business track
- Public sector training

- Bottom up approach
- Everyday network context
- Includes business applications context
CCENT As The New Prerequisite
Market Shifts in Networking Skills

• Shrinking gap in general networking (routing and switching) skills

• Essential and emerging networking technologies skills gap is large and growing
  • Essential: Security, Voice, Wireless
  • Emerging: Data Center, Cloud, Video

Source: IDC Skills Gap research, Jan-Apr 2013
Re-think > Teach These Courses!

Recommended

- Introduction to Networks
- Routing & Switching Essentials
- Scaling Networks
- Connecting Networks

Optimizes for student employment opportunities with CCENT as the foundation to pursue advanced technologies

Enable students to acquire skills for immediate use on the job

Students learn switching earlier in instructional flow
What Does This Mean?

- These 4 courses provide
  - Best response to industry skills demand research
  - Provides Students more options to specialize skills to ICT job market skills demand in Security, Voice, Wireless

- These 3 courses
  - Provide transition time to support institution administrative processes
  - Will be retired 1 year after all new courses are released (Nov 2014)
  - Will be in English only—not translated
Get Ready for a ‘Mind Wide Open’ Future

- Strategically, CCNA Routing & Switching courses continue to move toward greater certification alignment for market relevance
- Streamlining number of CCNA R&S courses over time = increased opportunities to invest in high demand advanced technologies
CCNA Routing and Switching Certification
# Certification Exam Changes

<table>
<thead>
<tr>
<th>New in ICND1 Exam</th>
<th>New in ICND2 Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introducing Basic IPv6</td>
<td>Troubleshooting VLAN Connectivity</td>
</tr>
<tr>
<td>Understanding IPv6</td>
<td>Understand Spanning Tree Protocol</td>
</tr>
<tr>
<td>Configuring IPv6 Routing</td>
<td>Understand and configure Etherchannel</td>
</tr>
<tr>
<td>Implementing VLANs and Trunks</td>
<td>Understand Layer 3 Redundancy Protocols</td>
</tr>
<tr>
<td>Routing Between VLANs</td>
<td>Troubleshooting IPv4 Network Connectivity</td>
</tr>
<tr>
<td>Implementing single area OSPF</td>
<td>Troubleshooting IPv6 Network Connectivity</td>
</tr>
<tr>
<td>Managing Traffic Using Access Control Lists (ACLs)</td>
<td>Implementing EIGRP</td>
</tr>
<tr>
<td>Implementing Variable-Length Subnet Masks (VLSM)</td>
<td>Troubleshooting EIGRP</td>
</tr>
<tr>
<td>Scaling the Network with Network Address Translation (NAT) and Port Address Translation (PAT)</td>
<td>Implementing EIGRP for IPv6</td>
</tr>
<tr>
<td></td>
<td>Multi-area OSPF IPv4 Implementation</td>
</tr>
<tr>
<td></td>
<td>Understanding and configuring OSPFv3</td>
</tr>
<tr>
<td></td>
<td>Understanding and configuring clients for SNMP, Syslog, and Netflow</td>
</tr>
<tr>
<td></td>
<td>Managing Cisco devices</td>
</tr>
<tr>
<td></td>
<td>Understanding and verifying Cisco licensing</td>
</tr>
</tbody>
</table>

Grayed out topics mostly covered in CCNA Discovery and Exploration
Networking Academy Certification Recommendations

• If students are finishing CCNA D2, D4 or E4 today
  Study and take the old certification by September 30, 2013
  Employers and Cisco do not differentiate between old and new CCNA certification
  But remember … students need to know these topics when renewing their certification in three years

• If students cannot take the old CCNA certification exam by September 30, 2013
  Additional topics to learn … means they can do more
  Technologies are evolving and everyone is expected to know more
  Students need to know these topics when renewing their certification in three years
CCNA Certification Exam Vouchers

- CCNA Routing and Switching Curriculum
  - Same qualifications
  - Before **August 20th, 2013**, students can select vouchers for the old CCENT/CCNA certification exams or the new CCENT and CCNA Routing and Switching certification exams
  
  - After **August 20th, 2013**, students can only request vouchers for the new CCENT and CCNA Routing and Switching certification exams
  
  - Students can take the old CCENT/CCNA certification exam up to **September 30th, 2013**
Timeline
CCNA Routing and Switching Timeline

Mar 26
New CCNA R&S
Certification

Apr 1
CCNA R&S
(Phase I)
Small Market
Trial

June 6, 2013
General Availability

Aug 2013
General Availability

Sep 30
End-of-Life
Old CCNA Certification

Nov 2013
General Availability

Dec 2013

Small Market Trial (SMT) – Phase II

- Virtual participation
- When: June 10 - 23
- What: 2 courses
  - Routing and Switching Essentials
  - Routing Protocols
- Actively recruiting SMT Reviewers
- Release in August

SMT Contact: Thanh Le, CCNA Product Manager, thanhl@cisco.com
Please Provide: Location of Academy, Academy ID, and preferred E-Mail during SMT
# CCNA Translation and EOL Milestones

## Milestones for CCNA Routing and Switching

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Target Date/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>English General Availability</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; courses June 6, 2013</td>
</tr>
<tr>
<td>Translation Plans</td>
<td>Translate 4 recommended courses – 6-9 months after English courses are available</td>
</tr>
</tbody>
</table>

## CCNA Routing and Switching Certification

- CCENT (ICND1) and CCNA Routing and Switching (ICND2) exams are only available in English and Simplified Chinese

## CCNA Discovery / CCNA Exploration End of Life

- Target to retire all CCNA Discovery and Exploration English courses November 2014
- Target for translated CCNA Discovery and Exploration courses is 1 year after all new CCNA R&S translated courses are available in each language
CCNA Routing and Switching Equipment Bundle

• Existing CCNA equipment bundles are compatible with CCNA Routing and Switching requirements
  
  3 CISCO1941/K9        ISR
  3 HWIC-2T             2-port serial WAN Interface Card
  3 WS-C2960-24TT-L      Catalyst 2960 24 10/100 + 2 1000BT LAN Base Image

  2 Linksys EA Series (2700, 3500, 4500) or equivalent

• Sign up for NetAcad Maintenance Service (it’s free!!!) to get access to download IOS 15.X
# Cisco Press Projected Availability (English Version)

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Course Booklet</th>
<th>Lab Manuals</th>
<th>Companion Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Networks</td>
<td>Aug 2013</td>
<td>Aug 2013</td>
<td>Nov 2013</td>
</tr>
<tr>
<td>Scaling Networks</td>
<td>Jan 2014</td>
<td>Jan 2014</td>
<td>Mar 2014</td>
</tr>
<tr>
<td>Switched Networks</td>
<td>Jan 2014</td>
<td>Jan 2014</td>
<td>Mar 2014</td>
</tr>
<tr>
<td>Connecting Networks</td>
<td>Jan 2014</td>
<td>Jan 2014</td>
<td>Mar 2014</td>
</tr>
</tbody>
</table>

[Ciscopress.com: Cisco Networking Academy Resource Center](http://www.ciscopress.com/markets/detail.asp?st=44750)
Transitioning to CCNA Routing and Switching
## Transitioning to CCNA R&S Curriculum

<table>
<thead>
<tr>
<th>Planning Resources</th>
<th>Instructor Training</th>
<th>Transitioning Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope and Sequence</td>
<td>“Are You Ready?” activity</td>
<td>Recommendations on how to move to new courses</td>
</tr>
<tr>
<td>Certification Exams Delta document</td>
<td>New Certification Exam Topics Virtual Training Sessions</td>
<td>Supplemental materials to bridge student knowledge gap</td>
</tr>
<tr>
<td>FAQs</td>
<td>CCNA R&amp;S Curriculum Virtual Training Sessions for Instructor Trainers</td>
<td>Community support</td>
</tr>
<tr>
<td>Instructor Resource Spotlight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preview CCNA R&amp;S courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Release Notes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Are You Ready?
Spotlight—One place to access all Transitioning Information

CCNA Routing and Switching Instructor Resource Spotlight

Please review these helpful resources for CCNA Routing and Switching instructors.

Course Overview
- CCNA Routing and Switching Introductory Video – A short video introduction to the new CCNA curriculum and exam objectives.
- CCNA R&S Update on Curriculum and Vouchers – A Cisco WebEx recording providing the latest details on exam discount vouchers.
- CCNA R&S Update on Transition Plans – A Cisco WebEx recording providing information to help you transition from the old and CCNA Exploration to the CCNA Routing and Switching curriculum.
- CCNA Routing and Switching Scope and Sequence DRAFT – Draft document outlining the course objectives as details evolve during the development process.
- CCNA Routing and Switching FAQs – Answers to frequently asked questions.

Cisco Certification Changes
- Cisco Associate-Level Certification Changes Video – A short video discussing the redesigned Cisco CCNA certifications and what the certification changes mean for you and your students.
- Changes in Cisco CCNA Certification Exams – An overview for instructors of changes to the CCNA certification for the current exams.
- What Students Need to Know About CCNA Certification Exams – An overview for students of changes to the end-of-life dates for the current exams.

https://www.netacad.com/group/offerings/ccna-rs-instructor-resource-spotlight
Planning Resources
Early Look at CCNA R&S Courses

Opportunity to view new courses early

- **Mid-Jun Early Look**
  - Routing & Switching Essentials
  - Routing Protocols

- **Mid-Sep Early Look**
  - Scaling Networks
  - Connecting Networks
  - Switched Networks

Timeline:

- **April 2013**
- **May 2013**
- **June 2013**
  - **June 6, 2013** General Availability
  - Introduction to Networks
  - Network Basics
- **July 2013**
  - Aug 2013 General Availability
  - Routing & Switching Essentials
  - Routing Protocols
- **August 2013**
- **Sept 2013**
  - Sep 30 End-of-Life Old CCNA Certification
- **Oct 2013**
- **Nov 2013**
  - Nov 2013 General Availability
  - Scaling Networks
  - Connecting Networks
  - Switched Networks
- **Dec 2013**
Release Notes

DRAFT Certification Alignment Table
CCNA R&S: Network Basics

Last updated 16 May 2013

Table 1 identify topics that have been added to the new Cisco ICND1 (100-101) certification exam and where they are covered in the Cisco CCNA® Routing and Switching: Network Basics course.

Note: Some ICND1 certification exam topics are not included in this course and will be covered in subsequent courses. These are identified as ‘covered in a later course’ in the table below.

<table>
<thead>
<tr>
<th>ICND1 (100-101)</th>
<th>CCNA R&amp;S Network Basics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation of IP Data Network</td>
<td>Chapter 1: Exploring the Network</td>
</tr>
<tr>
<td>Recognize the purpose and functions of various network devices such as routers, switches, bridges, and hubs</td>
<td>Section 1.2: The Network as a Platform</td>
</tr>
<tr>
<td></td>
<td>Section 1.3: LANs, WANs, and the Internet</td>
</tr>
<tr>
<td></td>
<td>Chapter 2: Configuring a Network Operating System</td>
</tr>
<tr>
<td></td>
<td>Section 2.3: Addressing Schemes</td>
</tr>
<tr>
<td></td>
<td>Chapter 6: Network Layer</td>
</tr>
<tr>
<td></td>
<td>Section 6.3: Routers</td>
</tr>
<tr>
<td></td>
<td>Chapter 9: Network Access</td>
</tr>
<tr>
<td></td>
<td>Section 9.4: Network Media</td>
</tr>
</tbody>
</table>

- For Instructors only
- Identifies where the new certification content is covered in the CCNA R&S courses
- Provided in CCNA R&S Instructor Resources Spotlight page
Instructor Training
Instructor Training & IPD Opportunities for CCNA R&S Courses

**Instructor Trainers**
- Training strongly recommended

**New Instructors**
- Training required
- Provided by ITCs

**Existing Instructors**
- Training strongly recommended
- Are You Ready? Activity

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**Instructor Professional Development (IPD)**
- IPv6 self-paced IPD course available now
- New certification exam topics virtual sessions – July
- Technology topics resources on Global Instructor Resource (GIR) site
Transitioning Materials
### Recommendations: Transitioning to New CCNA R&S Courses from CCNA Exploration

<table>
<thead>
<tr>
<th>Completed Teaching</th>
<th>CCNA R&amp;S Course Is Not Available</th>
<th>Next CCNA R&amp;S Course Is Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCNA E1</td>
<td>Teach CCNA E2</td>
<td>Transition to <strong>Routing &amp; Switching Essentials</strong></td>
</tr>
<tr>
<td></td>
<td>+ Supplement with bridging materials</td>
<td>Identify student knowledge gaps with final &amp; PTSA exams from <strong>Introduction to Networks</strong></td>
</tr>
<tr>
<td>CCNA E2</td>
<td>Teach CCNA E3</td>
<td>Transition to <strong>Switched Networks</strong> or <strong>Scaling Networks</strong></td>
</tr>
<tr>
<td></td>
<td>+ Supplement with bridging materials</td>
<td>Identify student knowledge gaps with final &amp; PTSA exams from <strong>Routing Protocols</strong></td>
</tr>
<tr>
<td>CCNA E3</td>
<td>Teach CCNA E4</td>
<td>Transition to <strong>Connecting Networks</strong></td>
</tr>
<tr>
<td></td>
<td>+ Supplement with bridging materials</td>
<td>Identify student knowledge gaps with final &amp; PTSA exams from <strong>Switched Networks</strong></td>
</tr>
</tbody>
</table>

Use personalized feedback to focus instructional or student self-study plans

*Will not be translated*
# Recommendations: Transitioning to New CCNA R&S Courses from CCNA Discovery

<table>
<thead>
<tr>
<th>Completed Teaching</th>
<th>CCNA R&amp;S Course Is Not Available</th>
<th>Next CCNA R&amp;S Course Is Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCNA D1</td>
<td>Teach CCNA D2 + Supplement with bridging materials</td>
<td>Transition to <strong>Routing &amp; Switching Essentials</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identify student knowledge gaps with final &amp; PTSA exams from <strong>Introduction to Networks</strong></td>
</tr>
<tr>
<td>CCNA D2</td>
<td>Teach CCNA D3 + Supplement with bridging materials</td>
<td>Transition to <strong>Scaling Networks</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identify student knowledge gaps with final &amp; PTSA exams from <strong>Routing &amp; Switching Essentials</strong></td>
</tr>
<tr>
<td>CCNA D3</td>
<td>Teach CCNA D4 + Supplement with bridging materials</td>
<td>Transition to <strong>Connecting Networks</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identify student knowledge gaps with final PTSA exams from <strong>Scaling Networks</strong></td>
</tr>
</tbody>
</table>

Use personalized feedback to focus instructional or student self-study plans.
Personalized Feedback from PTSA

PKA, Time Log, Final Configs

**Student's Work Products**

Link to Student's Activity File

*WARNING:* You can launch the student's submitted activity by clicking the button below. However, the completion percentage displayed inside the activity file as well as the point structure shown when clicking "Check Results" has no relationship with the point structure shown above or the score earned by the student.

Launch Student's PKA

**Timing Statistics**

<table>
<thead>
<tr>
<th>Time Started</th>
<th>Mon May 20 10:12:00 GMT-60:00 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Ended</td>
<td>Mon May 20 10:12:30 GMT-60:00 2012</td>
</tr>
<tr>
<td>Elapsed Time</td>
<td>0:24:57</td>
</tr>
<tr>
<td>Allowed Time</td>
<td>3:00:00</td>
</tr>
</tbody>
</table>

**Student's Final Running Configuration**

```
show run
Building configuration...
Current configuration : 997 bytes
  version 12.3
  no service timestamps log datetime msec
  no service timestamps debug datetime msec
```

**Timestamped CLI Log**

### Combined Student Log

<table>
<thead>
<tr>
<th>Timestamp</th>
<th>Device</th>
<th>Prompt</th>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon May 26 13:15:51</td>
<td>Branch</td>
<td>Router</td>
<td>enable secret</td>
</tr>
<tr>
<td>Mon May 26 13:15:52</td>
<td>Branch</td>
<td>Router</td>
<td>config 1</td>
</tr>
<tr>
<td>Mon May 26 13:15:52</td>
<td>Branch</td>
<td>Router</td>
<td>hostname Branch</td>
</tr>
<tr>
<td>Mon May 26 13:15:52</td>
<td>Branch</td>
<td>Branch</td>
<td>config 1</td>
</tr>
<tr>
<td>Mon May 26 13:15:52</td>
<td>Branch</td>
<td>Branch</td>
<td>enable secret</td>
</tr>
<tr>
<td>Mon May 26 13:15:52</td>
<td>Branch</td>
<td>Branch</td>
<td>config 1</td>
</tr>
<tr>
<td>Mon May 26 13:15:52</td>
<td>Branch</td>
<td>Branch</td>
<td>interface FastEthernet0/0</td>
</tr>
<tr>
<td>Mon May 26 13:15:52</td>
<td>Branch</td>
<td>Branch</td>
<td>ip address 192.168.20.87 255.255.255.224</td>
</tr>
<tr>
<td>Mon May 26 13:15:52</td>
<td>Branch</td>
<td>Branch</td>
<td>config 1</td>
</tr>
<tr>
<td>Mon May 26 13:15:52</td>
<td>Branch</td>
<td>Branch</td>
<td>no shutdown</td>
</tr>
<tr>
<td>Mon May 26 13:15:52</td>
<td>Branch</td>
<td>Branch</td>
<td>interface FastEthernet0/1</td>
</tr>
<tr>
<td>Mon May 26 13:15:52</td>
<td>Branch</td>
<td>Branch</td>
<td>ip address 192.168.20.87 255.255.255.224</td>
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<td>Branch</td>
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<td>no shutdown</td>
</tr>
<tr>
<td>Mon May 26 13:15:52</td>
<td>Branch</td>
<td>Branch</td>
<td>interface Serial0/0</td>
</tr>
<tr>
<td>Mon May 26 13:15:52</td>
<td>Branch</td>
<td>Branch</td>
<td>ip address 192.168.20.82 255.255.255.224</td>
</tr>
<tr>
<td>Mon May 26 13:15:52</td>
<td>Branch</td>
<td>Branch</td>
<td>encapsulation pap</td>
</tr>
</tbody>
</table>
Bridging the Gap for Students

Learning CCNA Discovery and Exploration → Take New Certification Exams
6 New Certification Exam Topics

• IPv6
• Multi-Area OSPF
• IOS 15 & IOS 15 Licensing
• Layer 3 Redundancy (HSRP)
• Link Aggregation (EtherChannel)
• Network Management: NTP, Syslog, SNMP, and NetFlow
## Supplemental Materials for Students

<table>
<thead>
<tr>
<th>Topics</th>
<th>Concepts</th>
<th>Practice &amp; Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PPTs, Docs</td>
<td>Videos / Recorded Sessions</td>
</tr>
<tr>
<td>IPv6</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Multi-Area OSPF</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>IOS 15 &amp; IOS 15 Licensing</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Layer 3 Redundancy (HSRP)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Link Aggregation (EtherChannel)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Network Management: NTP, Syslog, SNMP, and NetFlow</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

- Student self-study; Different learning experience from on-line courses
- Materials will be packaged as a bridging offering and accessed from NetSpace
- Target August availability in English
- Translated PPTs, docs and Recording Sessions – target Aug/Sep availability
Additional Resources for Self-Study Support

- Cisco Learning Network (CLN) [https://learningnetwork.cisco.com](https://learningnetwork.cisco.com)
- Community created materials
Keep Up With Latest Info

Visit CCNA Routing and Switching Instructor Resource Spotlight page on Cisco NetSpace:

• Videos introducing the new CCNA curriculum and CCNA certification exams
• Scope and Sequence document
• Current FAQs
• WebEx recording explaining curriculum details
• Certification Exams Delta document
• … and more
Get Started Now

- Take Are you Ready? Activity
- Get familiar with the Scope & Sequence
- Register for training and IPD
- Sign up for Networking Academy Maintenance
  - Free equipment software upgrades
  - NetSpace > Program > Equipment Information
- Make transition plans with your ASC and articulation partners
The Future of ‘Mind Wide Open’ Teaching and Learning
Thank you.
Updated Content

- Troubleshooting All Protocols
- Gateway Load Balancing Protocol GLBP
- Multi Area OSPF
- Hot Standby Router Protocol HSRP
- EtherChannel
- OSI 15
- Network Time Protocol
- IPv6
- Cisco IOS NetFlow
- Generic Routing Encapsulation GRE Tunnel
## Qualifications to Teach CCNA R&S for Existing CCNA Instructors

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First Course

Which context is more meaningful to your students?
- Everyday experiences
- Business applications

Which teaching approach is more appropriate for your students?
- OSI model bottom up approach (Physical to Application Layer)
- OSI model top down approach (Application to Physical Layer)
Which instructional flow is the best fit for you and your students?

• Teaching routing & switching technologies together
• Earlier certifications opportunity

OR

• Teaching routing & switching technologies separately
• Traditional instructional flow to support your student base
Converging on the Fourth Course

- Common point to finalize students’ preparation for the CCNA Routing and Switching certification exam