Course and Technical Updates

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Technical Manager
21 February 2020
Budapest

#NetAcadIPD
Agenda

• TO BE UPDATED
New Certifications and CCNA 7.0
### Key Elements of Cisco Certifications Changes

#### Training

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning/Training Levels 100-400</td>
<td>Provides badge for completing training and passing assessment. Counts for Continuing Education (CE) credits.</td>
</tr>
</tbody>
</table>

#### Level 100 Training Examples:
- Security (IINS)
- Wireless (WIFUND)
- Collaboration (CICD & CIVND)
- Data center (DCICN & DCICT)

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<table>
<thead>
<tr>
<th>Level</th>
<th>Associate</th>
<th>Specialist</th>
<th>Professional</th>
<th>Expert</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level</td>
<td>CCNA</td>
<td>CCNP</td>
<td>CCIE</td>
<td></td>
</tr>
<tr>
<td>Associate</td>
<td>One Exam</td>
<td>One Exam</td>
<td>Two Exams: 1 core and 1 concentration exam</td>
<td>Lab Exam</td>
</tr>
<tr>
<td>Specialist</td>
<td>One Exam</td>
<td>One Exam: 1 DevNet core and 1 concentration exam</td>
<td></td>
<td>Future offering</td>
</tr>
<tr>
<td>Professional</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Expert</td>
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</tr>
</tbody>
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**Future Offering**

- Two Exams: 1 DevNet core and 1 concentration exam

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Cisco’s Expanded Certification Suite

**Associate Level**
- CCNA
  - One Exam
  - IP Foundation (Core Networking) - 75%
  - Security - 15%
  - Network Automation - 10%

**Specialist Level**
- CCNP
  - One Exam

**Professional Level**
- CCNP+
  - Technology Core Exam
  - Concentration Exam
  - Enterprise Core (ENCORE)
  - Advanced Routing and Services (ENARS)
  - Enterprise Security
  - Service Provider
  - Collaboration
  - Data Center

**Expert Level**
- CCIE
  - Technology Core + Lab Exam

**NetAcad Portfolio Evolution Areas**

[cisco.com/nextlevel]
## CCNA 7 Focus Areas and Major Differences

### CCNA 7.0
- **IP Foundation (Core Networking)** – 75%
- **Security** – 15%
- **Network Automation** – 10%

### CCNA v6
- **280 hrs**
- **4 Courses**
- **CCENT / CCNA**

### CCNA 7.0
- **~ 200 hrs**
- **3 Courses**
- **CCNA**
### CCNA 7.0 Course Outlines

<table>
<thead>
<tr>
<th>Intro to Networks (ITN)</th>
<th>Switching, Routing, and Wireless Essentials (SRWE)</th>
<th>Enterprise Networking, Security and Automation (ENSA)</th>
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</thead>
<tbody>
<tr>
<td>Networking Today</td>
<td>Basic Device Configuration</td>
<td>Single-Area OSPFv2 Concepts</td>
</tr>
<tr>
<td>Basic Switch and End Device Configuration</td>
<td>Switching Concepts</td>
<td>Single-Area OSPFv2 Configuration</td>
</tr>
<tr>
<td>Protocol Models</td>
<td>VLANs</td>
<td>WAN Concepts</td>
</tr>
<tr>
<td>Physical Layer</td>
<td>Inter-VLAN Routing</td>
<td>Network Concepts</td>
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<tr>
<td>Number Systems</td>
<td>STP</td>
<td>ACL Concepts</td>
</tr>
<tr>
<td>Data Link Layer</td>
<td>Etherchannel</td>
<td>ACLs for IPv4 Configuration</td>
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<tr>
<td>Ethernet Switching</td>
<td>DHCPv4</td>
<td>NAT for IPv4</td>
</tr>
<tr>
<td>Network Layer</td>
<td>SLAAC and DHCPv6 Concepts</td>
<td>VPN and IPsec Concepts</td>
</tr>
<tr>
<td>Address Resolution</td>
<td>FHRP Concepts</td>
<td>QoS Concepts</td>
</tr>
<tr>
<td>Basic Router Configuration</td>
<td>LAN Security Concepts</td>
<td>Network Management</td>
</tr>
<tr>
<td>IPv4 Addressing</td>
<td>Switch Security Configuration</td>
<td>Network Design</td>
</tr>
<tr>
<td>IPv6 Addressing</td>
<td>WLAN Concepts</td>
<td>Network Troubleshooting</td>
</tr>
<tr>
<td>ICMP</td>
<td>WLAN Configuration</td>
<td>Network Virtualization</td>
</tr>
<tr>
<td>Transport Layer</td>
<td>Routing Concepts</td>
<td>Network Automation</td>
</tr>
<tr>
<td>Application Layer</td>
<td>IP Static Routing</td>
<td></td>
</tr>
<tr>
<td>Network Security Fundamentals</td>
<td>Troubleshoot Static and Default Routes</td>
<td></td>
</tr>
<tr>
<td>Build a Small Network</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **New/significantly changed content**

### Complementary Options

- CCNP Enterprise (ENCOR, ENARSI)
- CCNA Security / CCNA CyberOps
- DevNet Associate
- Python / ETWs
- IT Essentials

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# CCNA Instructor Qualification Mapping

<table>
<thead>
<tr>
<th>CCNA R&amp;S v6 Course</th>
<th>CCNA v7 Course</th>
<th>Materials to Review*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Qualification(s)</strong></td>
<td><strong>Qualification(s) Earned</strong></td>
<td></td>
</tr>
<tr>
<td>CCNA 1 (Intro to Networks)</td>
<td>CCNA 1 (Intro to Networks)</td>
<td>No additional</td>
</tr>
<tr>
<td>CCNA 1 (Intro to Networks)</td>
<td>CCNA 1 (Intro to Networks)</td>
<td>CCNA 2 (SRWE) v7</td>
</tr>
<tr>
<td>CCNA 2 (Routing &amp; Switching Essentials)</td>
<td>CCNA 1 (Intro to Networks)</td>
<td>CCNA3 (ENSA) v7 + Bridging Course</td>
</tr>
<tr>
<td>CCNA 2 (Routing &amp; Switching Essentials)</td>
<td>CCNA 2 (Switching, Routing, and Wireless Essentials)</td>
<td>CCNA3 (ENSA) v7</td>
</tr>
<tr>
<td>CCNA 2 (Routing &amp; Switching Essentials)</td>
<td>CCNA 2 (Switching, Routing, and Wireless Essentials)</td>
<td>Bridging Course</td>
</tr>
<tr>
<td>CCNA 3 (Scaling Networks)</td>
<td>CCNA 3 (Enterprise Networking, Security, and Automation)</td>
<td>CCNA2 (SRWE) v7</td>
</tr>
<tr>
<td>CCNA 3 (Enterprise Networking, Security, and Automation)</td>
<td>CCNA 3 (Enterprise Networking, Security, and Automation)</td>
<td>CCNA3 (ENSA) v7</td>
</tr>
<tr>
<td>CCNA 4 (Connecting Networks)</td>
<td>CCNA 3 (Enterprise Networking, Security, and Automation)</td>
<td>CCNA3 (ENSA) v7</td>
</tr>
</tbody>
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Teach CCNA R&S 1-2?

What will be your plan?

- CCENT certification for NetAcad students until 31 July 2020
- CCNAv7 1-2 students are not certification-ready
- No dynamic routing, NAT, ACL taught in CCNA 1-2
Teach full CCNA R&S?

What are you going to add?

• The duration is ~25% less
• Many topics moved to CCNP
• Variety of other NetAcad courses to consider
# Cisco Academy: Overview

## Explore
Introduction to exciting opportunities in technology:
- Get Connected
- Introduction to Packet Tracer
- NDG Linux Unhatched
- Cybersecurity Essentials
- Introduction to Cybersecurity
- Introduction to IoT
- Networking Essentials
- Entrepreneurship

## Career
Preparation for entry level positions:

### Digital Essentials
- IT Essentials
- NDG Linux Essentials

### Networking
- W Series
- E Series
- S Series
- R Series
- Q Series
- S5K Series
- S4810 Series
- S5000 Series
- S4000 Series
- S300 Series
- S200 Series
- S100 Series

### Programmable Infrastructure
- Emerging Tech Workshops:
  - Network Programmability
  - Experimenting with REST APIs
- IoT Fundamentals:
  - Connecting Things
  - Big Data & Analytics

### Cybersecurity
- CCNA Security
- CCNA Cybersecurity Operations

## Practice
Increase mastery with hands-on tools & experiences:
- Packet Tracer
- Gaming
- Prototyping Lab
- Virtual Labs
- Assessments
- Physical Equipment

## Complementary Offerings
Additional offerings available from Partners:
- NDG Linux I
- NDG Linux II
- NDG NetLab+
- NDG CCNA CyberOps Lab
- CLA: Programming Essentials in C
- CLP: Advanced Programming in C
- CPA: Programming Essentials in C++
- CPP: Advanced Programming in C++

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CCNA 7.0 Bridging Course

- Available December 10, 2019
- Includes 7 new modules combined into 1 course template
- Can unpublish and publish modules based either on CCNAv7 SRWE - 4 modules or CCNAv7 ENSA - 3 modules
Digital Badges
Information In A Digital Badge

What the badge represents

- What the individual has done to earn the badge
- The criteria that the badge has been assessed against
- The badge earner’s unique evidence (optionally included)
- When the badge was issued and whether it has expired

Who earned it

- That the badge was issued to the expected recipient (email)

Who issued it

- Details about the organization issuing the badge
Switching, Routing, and Wireless Essentials

Issued by Cisco

The badge earner of this credential has a foundation in switching operations, redundancy protocols, and wireless access technologies. The holder is able to configure wired and wireless LANs using security best practices to identify and mitigate LAN security threats along with troubleshooting of EtherChannel and switched networks.

Skills

- Switching protocols
- Wireless LAN Controllers
- Access connectivity
- IP services
- High availability
- First-hop redundancy
- Routing
- Access security

Earning Criteria

✔ Passing grade from Networking Academy instructor and passing score on final exam.
Networking Academy Badges

Courses

• Achieve minimum qualification score on first attempt of final exam
• Marked Pass/Completed by instructor

Recognitions

• 1, 5, 10, 15 and 20 years of active instructor
• Multiply for Growth program
• Learn-A-Thons
Certification Discount Vouchers
CCNA & CCNA Cyber Ops Exam Pricing

As of Feb 24, 2020

Cisco is moving to a Country Pricing Model for select exams

• Exam pricing will be based on the Country in which you sit for the certification exam
  Countries in Group 1 - $300
  Countries in Group 2 - $255
  Countries in Group 3 - $195

• Qualifying Networking Academy Participants will still receive discounts
  Students with NetAcad discount will pay ~$125 in all Country Groups
  Instructors with NetAcad discount will pay ~$90 in all Country Groups
  Instructor Trainers with NetAcad discount will pay ~$65 in all Country Groups

• To learn more about Certification Pricing and Costs per Country please visit:
  http://www.vue.com/vouchers/pricelist/cisco.asp#prices
No new discounts will be processed between Feb 3 to 23
If an individual becomes eligible for a discount during this time, they will be able to request their discount starting on Feb 24

Networking Academy Course discounts issued prior to Feb 24, 2020 will not work with the new CCNA Exam.

Discounts issued between Sept 1, 2019 and Feb 3, 2020 that are NOT USED (redeemed) by Feb 23, 2020 will be reissued by March 10, 2020 to align to the new CCNA exam.

Networking Academy will continue to offer qualifying Students and Instructors discounts on the new exam - details to follow.
Equipment
CCNA 6.0 vs 7.0 – Lab Equipment

For CCNAv7 Please Note:
• Serial ports not required
• PT version 7.3 required

PT used for 3-router/switch topologies

New
Router Options

ISR4221
- External Power Brick
- Ability to purchase rack mount kit with space for power brick next to router

ISR4321
- External Power Brick
- Special rack mount kit NOT an option due to router width

ISR4331
- Internal Power Supply

Cisco 4000 Series Integrated Services Router Data Sheet -
Can I Teach CCNA 7.0 on the 1941/2901 Routers?

• Yes, you can use the 1941/2901 Routers, but please note:
  • CCNAv7 Hands-on labs and Skills Assessments (SA) were written using the Cisco 4221 routers
  • Some modifications for router interface names will be required
  • Most CCNAv7 commands should work, but full regression testing for the 1941 and 2901 was not done

Example:

1941/2901 – Interface names G0/0 & G0/1
This is the same basic topology as used by CCNPv7.1; Some connections are changed around, and there is one less 2960 L2 Switch and one less ISR4221

Most current labs can be adapted, and the LP labs can be used directly or adjusted for the topology

CCNP Baseline Equipment Recommendation
3x Cisco 4221 with SEC license (2 with NIM-2T)
2x Cisco Catalyst 3650 Switches (WS-C3650-24TS-E)
1x Cisco Catalyst 2960+ Switch (WS-C2960+24TC-L)
Ethernet cables as shown in the topology
2x CAB-SS-V35MT= (10’ DTE Serial Cable)
2x CAB-SS-V35FC= (10’ DCE Serial Cable)

Computers (Virtual or Physical)
Minimum 1x PC workstation host (Linux or Windows)
Minimum 1x PC server host (Linux or Windows)

Equipment List and Draft S&S (ENCOR) now available
Packet Tracer 7.3
Packet Tracer 7.3

- Supports CCNA 7 & released together with CCNA 7
- New ISR 4331 router to support new topics
- New enhanced 3504 WLC wireless LAN controller
- Dynamic ARP Inspection (DAI)
- DHCP snooping fixes and enhancements
- Section output modifier for show commands
- Improved user authentication: when student takes online PTSA, authentication is not required
- Major GUI framework upgrade for better accessibility and usability
New Devices Details

Cisco 4331 ISR

- 1 GE/SFP, 1 GE, 1 SFP integrated WAN ports
- 2 NIM slots

Cisco 3504 WLC

- Provides centralized control, management, and troubleshooting next-gen wireless networks
Which version to use

- For CCNA 7, PT 7.3 is required
- For CCNA 6, PT 7.2.2 was most thoroughly tested
- If you use PT 7.3 for CCNA 6, you may sometimes receive a scripts warning
- You can have both PT versions installed alongside on Windows but only the latest install will be used for PTSAs
ETW: Model Driven Programmability
Cisco DNA & Emerging Tech Workshops

Experimenting with REST APIs using Webex Teams

Network Programmability using Cisco APIC-EM
Emerging Technologies Workshop
Model Driven Programmability

Workshop Overview
With the increasing size of the modern network and the frequency of changes required by the business, managing and automating networks via a Command Line Interface (CLI) is ineffective and error prone. A new approach, using Model Driven Programmability, enables transactional changes, by defining standardized device models and APIs. This workshop introduces students to device level programmability competencies, to automate configuration and management tasks using standardized YANG device models and using the RESTCONF and NETCONF device level APIs.

Benefits
Every networking student will benefit in grasping the importance of YANG, as language to “model” a networking device, combined with the robustness of the RESTCONF and NETCONF device level programmability APIs. Students will also experiment and develop Python scripts to manage networking devices at scale, using the Model Driven Programmability approach.

Learning Outcomes
- Understand the value, set-up and use of software concepts and tools relevant to network programmability (Python scripting, Git, JSON, Postman, APIs).
- Describe a different approach to software-defined networking (SDN), including central application policy control.
- Use Python with combination of RESTCONF and NETWORK APIs to retrieve and update the device’s configuration.
- Understand the value of joining professional communities of practice to working in the network programmability domain. Participate in Cisco DevNet, GitHub, and Stack Overflow.

Features
- **Target Audience:** Vocational, 2-year and 4-year College, 4-year University students
- **Prerequisites:** Basic programming, CCNA R&S Essentials level networking skills
- **Languages:** English
- **Course Delivery:** Instructor-led
- **Equipment:** Virtual Cisco SW Router, DevNet Sandbox, or Real Equipment with Cisco ISR4k routers
- **Estimated Time to Complete:** 8 hours
- **Recommended Insertion Points:** After CCNA R&S Essentials, or CCNP R&S
- **Instructor Training:** Required, self-paced option available
Equipment Required For The New Workshop

• 3 Flexibility Options:
  1. Virtual Cisco SW Router
     • Cisco CSR1000v software router
     • Instructors need active NetAcad Maintenance access:

  2. DevNet Sandbox reservation
     • Free, Remote using VPN.
  3. Real Equipment with Cisco ISR4k routers
     • Academies with new CCNA Bundles

Lab – Setting Up the Lab Environment (Instructor Version)

Instructor Note: Red font color or gray highlights indicate text that appears in the instructor copy only.

Objectives

Part 1 (Option 1): Import the VirtualBox VM with Cisco IOS-XE
Part 1 (Option 2): Setup a Cisco ISR4k router with Cisco IOS-XE
Part 1 (Option 3): Setup a DevNet Sandbox reservation with Cisco IOS-XE
Part 2: Summary and Connection Details

Required Resources

• For Part 1 Option 1:
  - Host computer with at least 4 GB of RAM and 15 GB of free disk space
  - Oracle VirtualBox
• For Part 1 Option 2:
  - Host computer with at least 2GB of RAM
  - Cisco ISR4221 or ISR4321 router with IOS-XE version 16.8 or above.
• For Part 1 Option 3:
  - Host computer with at least 2GB of RAM
  - Internet Connectivity
How to access to the new workshop?

- Globally available as Alpha in Limited Availability to all instructors
  - Check the Course Resources page for updates: www.netacad.com/portal/resources/course-resources
- Instructors can get their accreditation using the existing model for ETWs and IoTF:
  - All accredited instructors will be able to immediately teach the workshop to their students.
  - Extend the skillset of your CCNA students with important network programmability skills today!

Novice instructors
- Option 1: ITC Value-Add Course
  - Best in class training by a Cisco Qualified Instructor Trainer
Experienced instructors with good programming skills.
- Option 2: Online Self-Paced Course
  - Most flexible solution for Instructor Trainers and experienced instructors planning immediate adoption

Option 3: Join the workshop in Cisco office tomorrow!
Instructor Professional Development
IPD Week
September 2018 to May 2019

157 sessions created and delivered by TFE and instructors

22,134 hours of instructor learning

9,274 instructors actively participated in the IPD Week course

150 countries of participating instructors

7,738 Certificates of Attendance awarded
Program Updates

- Catch up on the latest strategies and products from Cisco Networking Academy!

Technical Session Topics Include:

- Understanding SD-Access
- Introduction to DevOps and CI/CD
- First Steps to DevNet Associate: Parsing JSON files using Python
- New Certs and Opportunities for our Academies: DevNet Associate
- Interactive Gaming in Packet Tracer
- Meraki Dashboard and API
- & many more!
Dedicated CCNA 7 Page
Do not miss important updates!

- Check your email settings