

ICT Educator Webinar Series

Cisco Update:

A New Streamlined Certification Program

September 6, 2019

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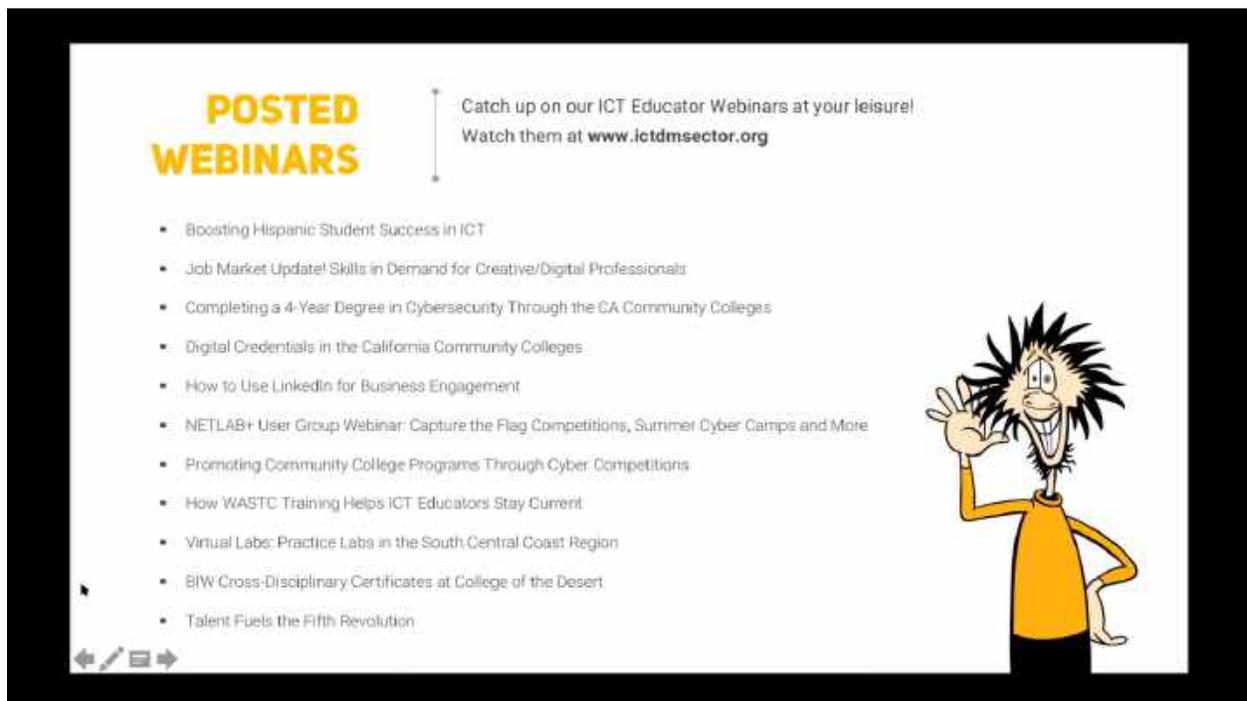
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[00:00:00]

Welcome

STEVE WRIGHT: Good morning, everybody. It's very pleasant to have you join us for the fall season of the ICT Educator series. We took a little break for the summer, but we're back, and we're leading off with a wonderful presentation today, a Cisco update, which seems to have attracted attention from across the country, which is very pleasant. Cisco has been an industry partner of ours for a long time, here in California, and we're very glad to have them here.

First, I'd like to say a few remarks about the series in general. On our next slide here, you can see some of the series presentations we gave last year. That was our first year, and sometimes attendance should have been more than it was because we had some really incredible topics.



The slide features a white background with a black border. On the left, the text 'POSTED WEBINARS' is written in bold, yellow, sans-serif font. To the right of this text is a vertical double-headed arrow. Further right, the text 'Catch up on our ICT Educator Webinars at your leisure! Watch them at www.ictdmsector.org' is displayed in a smaller, black font. Below this, a bulleted list of webinar topics is shown. On the right side of the slide, there is a cartoon character with spiky black hair, a wide smile, and a yellow long-sleeved shirt, waving with his right hand. At the bottom left of the slide, there are small navigation icons: a left arrow, a right arrow, and a speech bubble icon.

POSTED WEBINARS

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- Boosting Hispanic Student Success in ICT
- Job Market Update! Skills in Demand for Creative/Digital Professionals
- Completing a 4-Year Degree in Cybersecurity Through the CA Community Colleges
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- How to Use LinkedIn for Business Engagement
- NETLAB+ User Group Webinar: Capture the Flag Competitions, Summer Cyber Camps and More
- Promoting Community College Programs Through Cyber Competitions
- How WASTC Training Helps ICT Educators Stay Current
- Virtual Labs: Practice Labs in the South Central Coast Region
- BIW Cross-Disciplinary Certificates at College of the Desert
- Talent Fuels the Fifth Revolution

But fortunately, Nicole Sherman, our producer, has been able to capture all these on our website in video and then chapterized the video, so you can go to any part of the video that you like. Also, the entire text of the presentation has been put into a transcript, so you can use that as

well. I know lots of you have grants and different things, or you need information for your classes or whatever—there’s a lot of really rich stuff here, so it’s a tremendous value, and we hope that you will use it and tell us about your experience.

Also, this summer, Nicole was able to reach out to the attendees of all the sessions that we had and others on our extensive Constant Contact list and determine that what our webinar customers or participants really enjoyed are:

- Career technical education programs about marketing and outreach
- Skills and certifications needed by employers
- Virtual labs and dual enrollment

So, with that in mind, we developed our fall schedule to include those topics and bring in some very wonderful industry experts to talk to you about it.



Our fall webinar series is on through just about Christmas. We’ve got a few holes to fill, but for the next few sessions, we’ll be covering:

- Our NETLAB+ virtual lab updates next week
- The cybersecurity activities for your campus or the K-12s that are near your campus that are particularly fun these days to help introduce and engage students in cybersecurity

- Then, the next week, we'll be looking at certification centers on campus, where you can certify.

We had a study done recently to help us identify best practices in certifications, so we look forward to having that soon, but today, we're talking about the Cisco update.

Our Relationship with Cisco

[00:02:46]

STEVE WRIGHT: I mentioned Cisco has been a partner for a long time, and we're very interested in hearing that. Obviously, there are a lot of you out there that are interested in a lot of what we know about Cisco and the way our faculty engages with the curriculum is through the Western Academy Support and Training Center.

Richard Grotegut and Karen Stanton, who are both on the call today, represent that, and they are pretty much the face of Cisco for a lot of people on our campuses, and we thank them extensively for what they do and their annual conferences—I believe the next one will be the Winter Conference on January 6th and 7th.

I'm going to go ahead and, in a moment, turn it over to Richard Grotegut to introduce our guest for today, but Richard is a pretty special person, too.

He's been teaching for years in the community college system. Recently, he retired, and not only does he do double duty like Karen in the Western Academy Support and Training Center, but he's also the Bay Area Regional Director for Industry Engagement for the California Community Colleges, so he has a very important role now, giving back from all his knowledge over the years, and I'm very happy that we're on the same team doing that.

So, with that little introduction to Richard, Richard, I would like you to go ahead and take over and introduce our guest from Cisco.

History of Cisco Networking Academy Updates

[00:04:05]

RICHARD GROTEGUT: Well, thank you very much, Steve, and thanks for the great introduction. It's a great opportunity. Am I sharing my screen for you right now? Let's see that... Let me try to do that.

STEVE WRIGHT: I don't see the content yet.

RICHARD GROTEGUT: Oh, I got it. All right. You talk about my years of experience—I'm getting a little nostalgic about the Cisco Academy Program, and this, the 2020 CCNA version 7, which I'm finding to be a very welcome update...



I've been through many updates over the years, and I was just thinking back. This coming November will mark my 22nd year with the Networking Academy Program, when I first got my instructor training.

I was going back and reflecting on the content and how it's evolved and the different versions—we're on version 7, so that's been now 7 changes to the curriculum during my time with the Academy—looking at some of the textbooks from those years in 1999. There were two—it was offered as a 2-year program. They had a 1st-year guide and a 2nd-year guide.

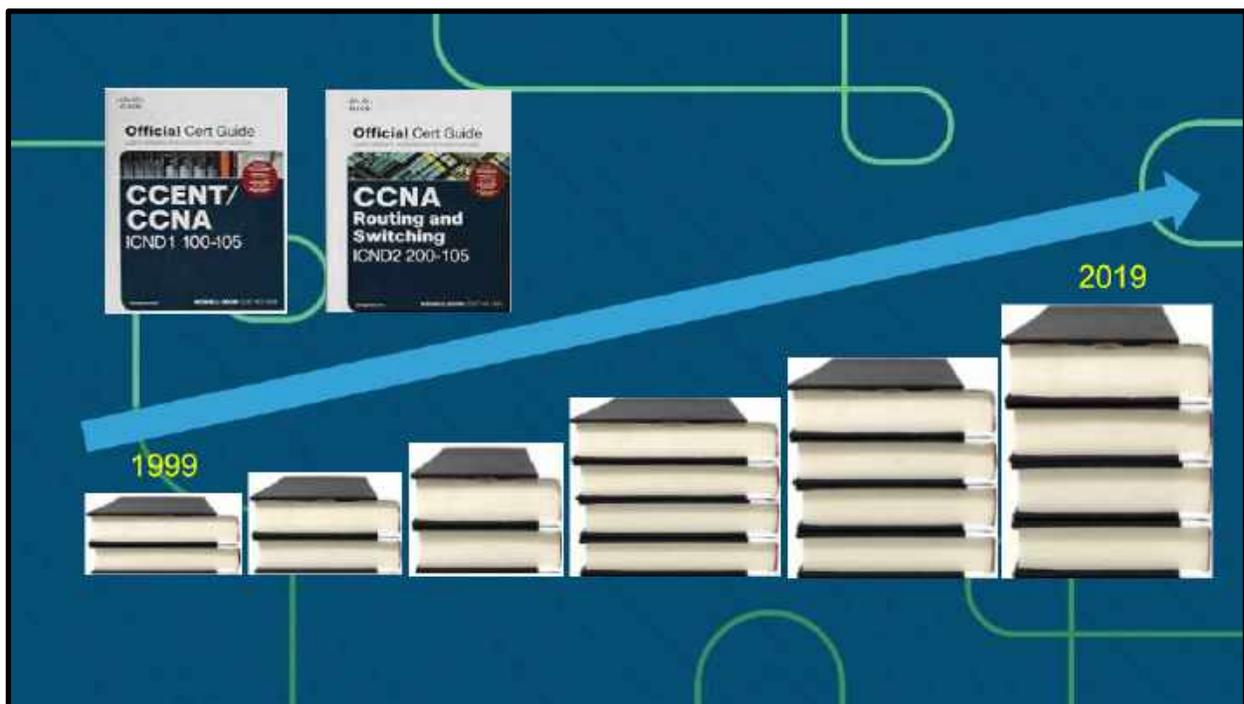
They continued that in 2002 with the update, and then in 3, community colleges just got really very much involved and began teaching the courses as separate courses. There was CCNA 1 & 2 and CCNA 3 & 4. It worked really well with the community colleges. We were able to fit those into 8-week courses and have students finish and get their certification prep all done in an academic year.



Then, the courses were divided. There was a textbook for each of the four courses, separate ones—that version in 2008—continued that way, changes in the titles, changes in whether they learned routing with switching or routing and switching separately, what happened accessing the WAN and those technologies, to the present offering, version 6.

As I said, I'm welcoming the change. Version 6 has been around for a while. The industry and the technologies have changed a little bit, and I'm happy to see the change.

Changing Content



[00:06:29]

RICHARD GROTEGUT: Now, what's been happening over those years, though, is not only has the number of courses changed, but really the content has changed. Each version change meant

learning new things, keeping the old technology and learning a lot of new things. The amount of content that was added to each of those version updates became more and more difficult for our faculty to adjust to the academic schedule and prepare the training and get the courses ready, and you can see that the content increase ended up just kind of focusing on the CCENT because we simply couldn't get the amount of content taught in a year's time to be able to prepare the students for that cert.

So, we like the CCENT certification academically, but in reality, it wasn't really embraced by the industry very much, so that's why I'm really kind of happy that, kind of going back, Greg will talk about the focus now on CCNA as the entry-level cert, just like it was in the beginning and for many years.

Certifications in Greatest Demand	Job Postings
IT Infrastructure Library (ITIL) Certification	15,128
Certified Information Systems Security Professional (CISSP)	12,678
Cisco Certified Network Associate (CCNA)	8,414
Certified A+ Technician	7,328
Certified Information Systems Auditor (CISA)	7,126
Project Management Certification	5,927
Cisco Certified Network Professional (CCNP)	5,846
CompTIA Security+	5,617

And I know, Steve, you shared with me some Burning Glass data, and I was pretty impressed to see that today, 2019 (this was data just accumulated a week in California), you can see that CCNA is at the top of the list as #3 in greatest demand. CCNP is there, too, by the way, so we're looking forward for changes in that as well.

So, I'm very happy to see the change, and it's my pleasure to introduce Greg Coté, who is the Product Manager of this change. He's going to be helping us and talking about the changes in

detail. It's so great to have it coming directly from Cisco, too. Karen and I can talk about the changes, but if we can hear it directly from the horse's mouth, that's even better.

So, Greg is the Product Manager here with the Networking Academy organization. He's responsible for the networking technologies portfolio that includes the new CCNA and CCNP courses that are coming soon.

Then, what I was very impressed with, with Greg, is that before joining the NetAcad team, he was with the learning at Cisco group and responsible for the routing and switching certification track. Cisco Learning and Cisco Networking Academy, while both very much involved in training and education, have not always worked together, so I'm glad to see that change now, so it's my pleasure to introduce Greg. I'm going to go ahead and stop sharing, Greg, and allow you to share your slides.

[00:09:33]

Cisco Certification 2.0 and CCNA 7.0 Updates

GREG COTÉ: Great. Thanks, Richard, and welcome, everyone. Thanks for the opportunity here to go over the CCNA program.

Cisco Cert 2.0—Drivers and Change Summary

[00:09:34]

GREG COTÉ: All right. Again, as Richard said, I've been at Cisco in the certification side for over 7 years before joining the Networking Academy, and I've had a chance to see at the root of how the certification portfolio has evolved over time. I love Richard's representation there of the thickening page count over the last 20 years and the significant additions to every subsequent revision of the CCNA. It certainly felt like it was getting a heavier and heavier weight.

So, before I get started, I've got this session kind of broken into two categories. For one, I want to talk a little about the route that was followed to reach the new CCNA that just got announced back in June, and then I was to spend the majority of the time talking about what is the state of the CCNA course development, talk about the implications to the instructor base, and just sort of drill into how far we are in terms of making this new coursework material available to you.

CCNA Portfolio Analysis Summary

1) Realign CCNA to employer/job needs

Data sources:

- Job Role Analysis and Job Task Analysis processes conducted with SME groups
- Targeted survey of 300+ technical managers
- Focus groups consisting of hiring managers
- Annual surveys/interviews of certified base (>10k responses) and SMEs

Key findings: Network administrators need foundational IP (physical layer, switching and routing basics plus IP services) combined with a broad awareness of technologies and problem solving skills. New hires with these skills can be trained to support networking environment specific to that company/industry.

2) Right-sizing of CCNA blueprint

Revisions to CCNA R&S have created overload with topics that extend beyond entry/associate level job roles. Over time, many topics added and few removed

Rebalancing and streamline to align with employer needs including room for new topics and end-to-end networking awareness

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GREG COTÉ: But again, behind the curtain, just to give people a sense of how do we get to a new certification, the sort of ingredients that went into the CCNA are shown here, and that is... People are familiar with creating certifications, probably are aware that there's a standard methodology around Job Role Analysis and Job Task Analysis, which is a data gathering process with SMEs.

In the case of the CCNA, though, we knew that, really, as you see here, these two summary points are there was a little bit of a drift (and I'll just call it that) of the CCNA alignment to what employers' and what the job role expectations were. It actually had crept up. As we showed from the earlier slide with the page count, it really got to be at a point where there was more subject matter in there, and it wasn't really aligned with what the hiring managers were looking for.

So, we set out well before June, before the announcement. This process was probably over a year long. There were extensive focus groups, surveys, some targeted surveys with hiring managers, trying to get clarity on what it is that a new Network Administrator needs to bring into the job role, and what it is that the employer or the hiring manager expects to build upon.

First and foremost, again, we knew that there was a disconnect that, so realigning the CCNA for the employer expectations, and then this right-sizing notion, right? So, we have clearly a... There's a balance point, right? The certification represents an associate level. It needs to be comprehensive, and it needs to have a good blend of competencies that can be demonstrated, knowledge and skills, as well as capabilities to do things, right? There has to be a balance of those two components.

Now, we knew also that there was new subject matter coming. It's a big shift in network technology—the big shift in architectures meant that there needed to be some space, if you will, made for these new topics, so that right-sizing activity was key to being able to, again, make this certification fit in its proper spot and remain as the premier networking certification.

All right, that just kind of sets the groundwork for what happened well before June, and then the underlying motivation for what I'm going to talk about in a second as the new network is digital transformation. Simply put, it's really just the application of technologies to support and create new business models, and this is at the root of all of what Cisco has been talking about for the last four plus years and is what is at the root of creating this need for a different skillset and a different focus.

Digital Transformation

Technologies powering digital transformation



Virtualization & Cloud

Enabling new business models and global scaling on demand



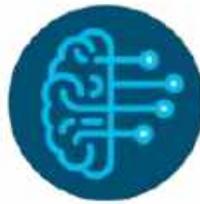
Automation

Supporting over 4 billion users plus 10 billion IoT devices



5G Mobility

Secure access to business critical applications and data



Analytics & AI

Distilling zettabytes (10^7) of data to find relevant insights

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[00:14:40]

GREG COTÉ: Now, some of the technologies that are supporting this digital transformation and just the evolutionary changes that are going on in networks...

Virtualization and cloud—if you look back five years ago, these were just introduced and really new subject matters that existed in segments of the network but not throughout.

A big bet for Cisco is the adoption of the 5G—there was a rollout in the adoption of 5G mobility. That's a scaling essential.

Then, automation, which, really, there's no way to... If you think about the device responsibilities of a Network Admin or a Network Engineer, going from hundreds of users and devices to thousands, to support this kind of scaling absolutely requires automation. That, again, is a technology space or a skill area that just hasn't existed until within the last five years in terms of being mainstream.

And then, things like artificial intelligence, machine learning, analytics—all of those tools and capabilities that come with this new architecture, again, link to what’s driving the need for new skills and what’s ultimately driving the changes that we made to the certification for CCNA.

The New Network



[00:16:10]

GREG COTÉ: This is Cisco’s view of the ingredients or the elements of what will make a digital transformation successful—what Cisco calls the New Network. Really, the three pillars of it are...

Intent-based networking, which is focusing on familiarity with just a controller-based architecture. Cisco has been talking about intent-based networking now since 2016. The branded names for this are things like Digital Network Architecture or Application-Centric Infrastructure in the data center. So, really, this is just all about an ability to take business intent or IT’s intent, convert that into policies, have those policies orchestrated and automatically configured into the network devices, and then a feedback loop so that the analytics can track what’s going on and

make any kind of corrective actions as needed. So, that's a real shift in architecture that, again, drives new skills and requirements.

Multi-domain networking—a second ingredient here. Really, it's just about that business policy that needs to be deployed and invoked not only in the campus but needs to scan across all network segments. So, that's what's meant by 'multi-domain,' is that ability to push the policy across all network segments, right to the data center.

And then, programmability absolutely is a central ingredient with all of this. Cisco has been developing devices with programmable capabilities now for over 10 years. It's really doubled down in the release of the recent Catalyst 9K. You folks might be familiar with a lot of the different solutions that have come out that emphasize that software-defined X is the future, so Cisco is focused on that.

Again, what this all means is certifications, the emphasis and the focus need to make room and shift towards supporting these technologies.

New Skillsets



[00:18:28]

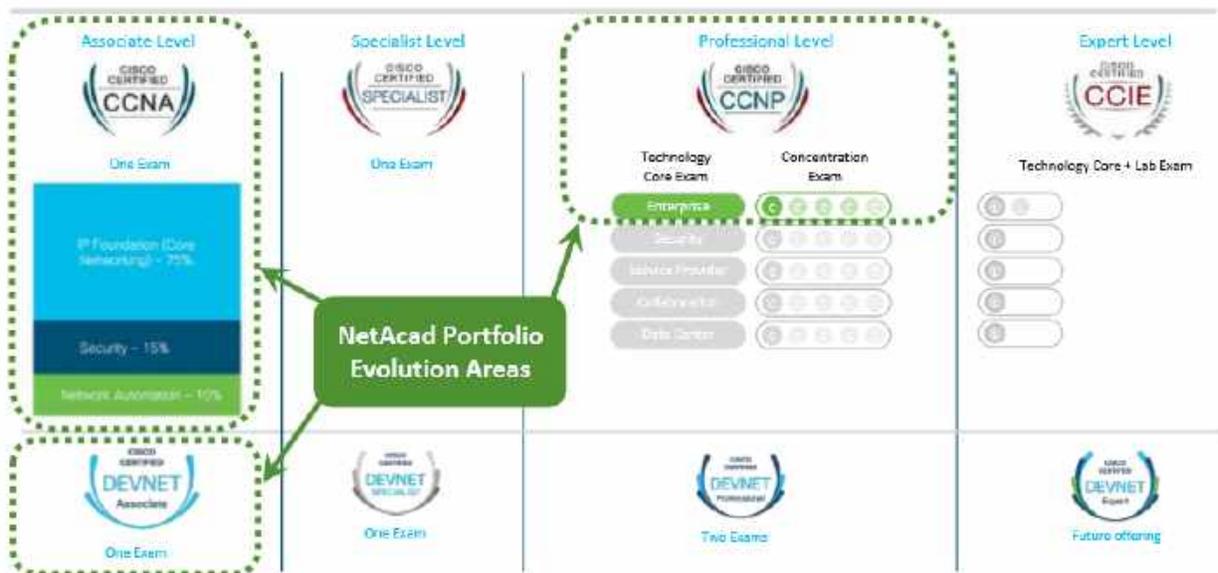
GREG COTÉ: And then one last point here, just to kind of bring it home, if we start to think about all those new architectures and technologies and ‘what does that mean for the certifications?’... So, these skill areas, again, programming being central, really understanding even programming concepts, which is central to software-defined networks... As I mentioned, the multi-domain...

Those automation skills, that understanding of virtualization—right now, there’s a different mindset requirement in terms of provisioning devices, whether it’s a physical device or a virtual device.

Wireless, which is something that used to be in the CCNA has come back front and center. There’s absolutely no one working in a campus environment with access networks who doesn’t have some responsibility or some touch with wireless devices.

Then, again, the shift from ‘how do you actually interact with devices?’ So, taking from today the command line interface perspective, shifting that to APIs, all of these, again, you can think of them as the drivers that led to the changes in the CCNA.

Introducing Cisco’s Expanded Certification Suite



[00:19:45]

GREG COTÉ: So, let me click ahead here... So, this is a big, busy chart. The announcement back in June encompassed the entire portfolio at all levels, but from a NetAcad focus standpoint, we can zero in on the change to the associate level, the CCNA, which that level of the portfolio previously contained—or I should say, up until next February—contained, other than routing and switching, several other CCNAs.

The convergence of those into this new portfolio is key, was absolutely critical, and if you look at the composition of this, what’s really branded now is just the CCNA—it’s no longer CCNA routing and switching; it is the CCNA.

So, it should be familiar, right? IT Foundational Topics with routing and switching occupy a huge portion of that blueprint. Security and network automation as well have been either added or increased.

There are big changes that happen also at the professional level. Today, there are multiple CCNPs where, in order to earn those certifications, there's a three- or four-exam journey that individuals need to follow. That's been converged to a two-exam framework, and what I think is one of the real industry leading improvements is the complexity or the variedness of job roles within enterprise, within data center, within service provider really required us to go back and think about 'can we make a one-size-fits-all certification for each of these technology spaces?' and the answer was no, we can't because there just isn't a single job role definition in these spaces.

So, what's happened at the CCNP level is there are two exams—there's a core exam, and then there's a concentration exam, which you can think of as the optional exam. You can see multiple little bubbles there in the column. In that case, everyone will take a similar core exam, and then the concentration will be the choice of the individual, based on their industry or career focus.

So, those are the big changes to the CCNA and CCNP, and then you see at the bottom there this addition. There's a whole parallel track now related to the DEVNET focus certification, same level that mirrors the networking side, this Associate Professional Expert.

Again, that DEVNET associate is a new component, or is going to become a new component in the NetAcad portfolio, so that's going to open up some opportunities, hopefully, for your Academies and be appealing both as a complementary skill for networking-focused folks as well as some of the developer folks.

Certifications Timing (NetAcad Focus)

[00:22:59]

GREG COTÉ: And then, last on this is, again, if you've seen the announcements, if you're familiar, it really is a key milestone where all of the different certifications flip from the current versions to the new replacements in February of 2020—February 24th, to be exact. That's as long as you can take the existing certification exams.

So, obviously, when we talk about transitioning the Academies from the current curriculum to the new curriculum, that needs to be top of mind, and we understand, of course, that people can't turn on a dime. There's an administrative and operational aspect to this that we have to consider, so we're going to work, when we release this new courseware to make it possible for folks to bridge across that date and provide the incremental information to students who want to still pursue that CCNA certification but need now to focus on the newer version.

Then, the last point here is, for the Academies who are delivering trainings associated with the CCENT (the CCNA 1 & 2 courses), July 31st of next year is the final date for those students to take that exam and to earn that CCENT certification.

So, these are the noteworthy dates. Another noteworthy date which I probably should have put on here—I'm sure the instructors in the audience are interested—is 'when am I going to see this new content?'

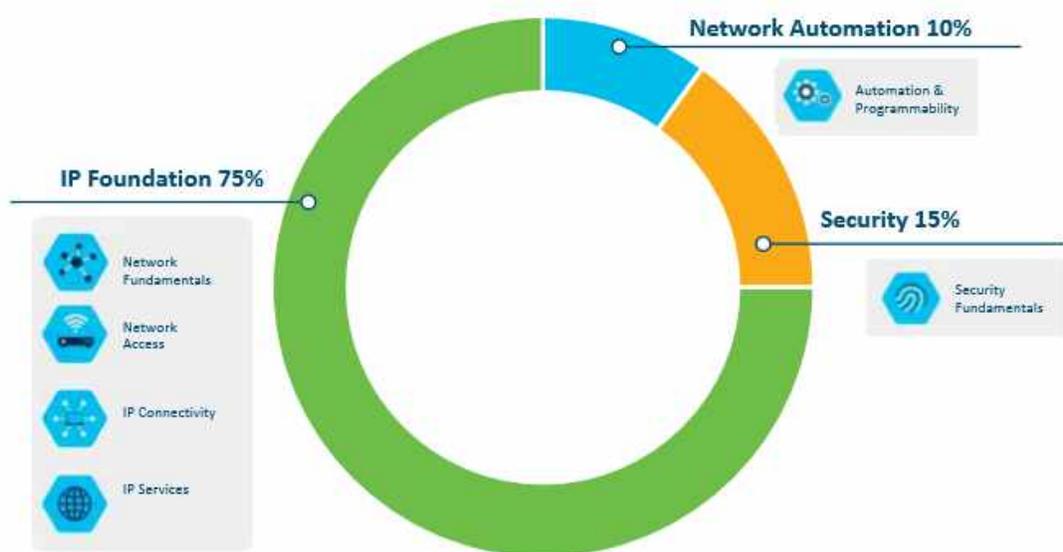
November is when we plan to release the courseware for the CCNA. We'll give you a specific date as we get further along in the development. Right now, that is the timeframe—that's when you're going to get exposed to it—but there are going to be opportunities to actually see what's changed and what's different before that.

CCNA 7.0 Update

[00:25:00]

GREG COTÉ: All right, so let me go from certification change to drill into the CCNA 7 itself—what is new in this revision?

CCNA 7.0 Focus Areas



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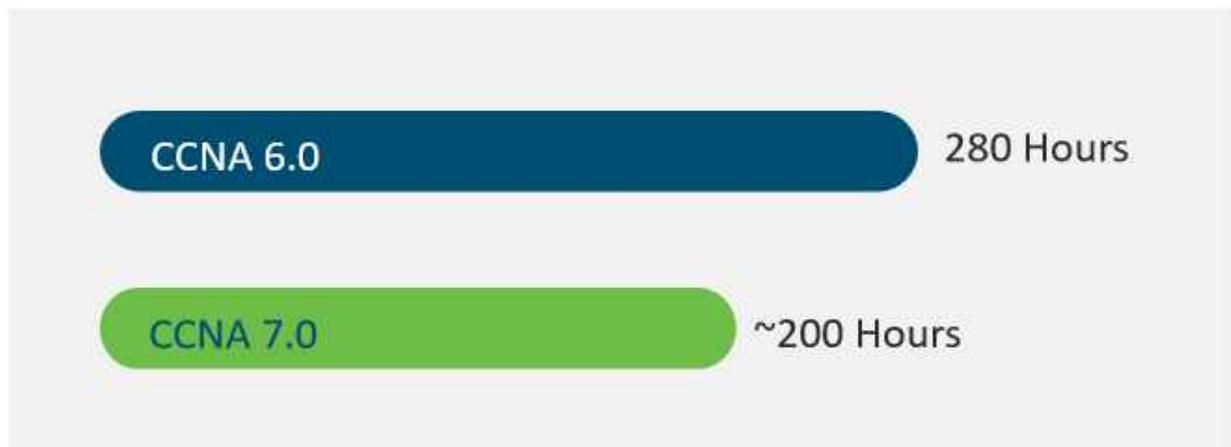
GREG COTÉ: Well, first, what I think is a really important takeaway here is this represents what should be the familiar ground. The green space or the green portion of this circle is all around IT Foundational topics, the domains including:

- Network Fundamentals
- Network Access
- IP Connectivity

- IP Services

Everything in that set of domains comes from the CCNA routing and switching certification of today. So, again, that should be all familiar ground, and even some of the security fundamentals that are—we have device security and topics like that—already in the certification. There’s an expansion in security, and there are obviously new topics around network automation that have come into the certification that will obviously be reflected in the trainings.

But the good news here is that, from a transition standpoint, the fact that there’s a large amount of subject matter here that’s familiar should help to make that transition successful and relatively painless—I know these aren’t painless.



Opportunity to accelerate path to job readiness!

[00:26:28]

GREG COTÉ: Now, the first thing that was done when the new blueprint came out was the development team who developed the courses looks closely at the subject matter and made an assessment or scoped the total amount of material and quickly determined that, hey, there’s an

actual reduction in the subject matter from CCNA 6 to CCNA 7. Even with what I showed earlier as the new components around automation and the expansion of security, the overall subject matter magnitude was reduced by about 25%.

Now, how did this happen? If you think about the evolution and what Richard was sharing earlier, every time there was a revision, we would add something. We would add another dynamic routing protocol. We would add v6 and v4 instances of that. There were lots of technology topics where we just kept stacking alongside existing.

Again, going back to whatever the hiring manager expects, well, we don't know. There's no way to predict what everyone is going to be using for their dynamic routing protocol, so we took the approach (which was not the appropriate) to just sort of give it the kitchen sink and make sure we cover all, which, from a technical hiring manager standpoint, really wasn't necessary. They want somebody who has an understanding of what a dynamic routing protocol or how a spanning tree works, but they don't need to have complete competency in all different flavors of it.

So, taking that, taking those things down to what's essential, taking out some of the legacy WAN protocols and things that really are less and less predominant now, allowed the total amount of training to reduce by 25%...

So, from a student perspective, that could translate into a shorter path to job readiness, and really what this provides us is an opportunity to rethink the course packaging—you know, what makes sense in terms of subject matter, how many courses, and what goes where.

New CCNA 7.0 Course Evolution

CCNA v7 Course #1	CCNA v7 Course #2	CCNA v7 Course #3
<p style="text-align: center;">Based on CCNA 6.0 Intro to Networking (ITN)</p>	<p style="text-align: center;">Blend of CCNA 6.0 ...</p> <ul style="list-style-type: none"> ✓ Routing and Switching Essentials (RSE) ✓ Scaling Networks (ScaN) ✓ + New topics* 	<p style="text-align: center;">Blend of CCNA 6.0 ...</p> <ul style="list-style-type: none"> ✓ Routing and Switching Essentials (RSE) ✓ Scaling Networks (ScaN) ✓ Connecting Networks (CN) ✓ + New topics**
<p style="text-align: center;">Minor updates and refinements</p>	<p style="text-align: center;">*Addition of WLAN and Security topics</p>	<p style="text-align: center;">**Addition of Automation, Programmability, VPN, and Security topics</p>

[00:28:58]

GREG COTÉ: So, I should know this, but we just had a session with the partners last week, and there is a scope-and-sequence document that's been posted up to the NetAcad.com space. If it's not available now, it will be shortly. Obviously, you can take that as a way to do a comparison, do a delta analysis, and look at the changes that have gone on in this version 7.

But at a high level, you can see in this list that, from a change standpoint, Course #1: Intro to Networking today really is equivalent to version 7, so we're talking about minor refinements and minor updates. So, folks who are familiar and who have been teaching that course should pick up version 7 and pretty much seamlessly continue to move.

Course #2 is actually a convergence or a blending of the Routing and Switching Essentials and Scaling courses of version 6, plus some new topics. The new topics are specifically the wireless-related topics and some expansion of security topics.

Then, Course #3 of version 7 is actually blending topics from three different courses in version 6:

- Routing and Switching Essentials
- Scaling Networks
- Connecting Networks

So, there are actual ingredients from all three of those, plus the new topics related to automation, network programmability, some VPN, and additional security topics.

So, Course #1 is very familiar, virtually identical, except there are some interface and platform changes, which I'll talk about in a minute. Course #2 has significant change. Course #3 has significant change from the past, but when I say 'significant change,' I'm talking about Course #2 comparing to Course #2 of version 6.

If you, again, go back to that wheel that I showed about the composition, the IP foundational topics that they brought into Course #2 from the Routing and Switching Essentials and Scaling, again, if you've been delivering both of those courses, those should be familiar topics. So, the amount of change... I should say the amount of new material that's in this revision is actually less than going from 5 to 6. So, hopefully, that paints a picture of the extent of the changes and gives you a sense also of how things got mapped from the four-course version 6 into the three-course version 7.

How am I doing on time here? I want to say there's time for a Q&A, but we've got some next-level details here on the course outlines.

CCNA 7.0 Course Outlines

[00:32:10]

GREG COTÉ: So, this is the list of modules. Again, the scope-and-sequence document that I mentioned, it's just been posted up to NetAcad.com. In that, you can see the next-level details, the topics, and the objectives for each of these modules.

CCNA v7 Course #1

CCNA v7 Course #1
Networking Today
Basic Switch and End Device Configuration
Protocol Models
Physical Layer
Number Systems
Data Link Layer
Ethernet Switching
Network Layer
Address Resolution
Basic Router Configuration
IPv4 Addressing
IPv6 Addressing
ICMP
Transport Layer
Application Layer
Network Security Fundamentals
Build a Small Network

But again, from a summary standpoint, what are the ingredients of Course #1? Again, very familiar, hopefully, because it mimics Intro to Networks in version 6.

CCNA v7 Course #2

CCNA v7 Course #2
Basic Device Configuration
Switching Concepts
VLANs
Inter-VLAN Routing
STP
Etherchannel
DHCPv4
SLAAC and DHCPv6 Concepts
FHRP Concepts
LAN Security Concepts
Switch Security Configuration
WLAN Concepts
WLAN Configuration
Routing Concepts
IP Static Routing
Troubleshoot Static and Default Routes

Course #2 is where the changes are—or where I should say the new material is, new/significantly changed content. There were some security topics in the previous courses, but there's a significant enough change to where we're noting that as new content.

So, if you look at Course #2 also, you can kind of see, except for the last couple of modules on routing, it's pretty much a Layer 2 Switching course—that's at least a notional way to think about what Course #2 is composed of.

CCNA v7 Course #3

CCNA v7 Course #3
Single-Area OSPFv2 Concepts
Single-Area OSPFv2 Configuration
WAN Concepts
Network Security Concepts
ACL Concepts
ACLs for IPv4 Configuration
NAT for IPv4
VPN and IPsec Concepts
QoS Concepts
Network Management
Network Design
Network Troubleshooting
Network Virtualization
Network Automation

And then Course #3 has, again, the blending of three different version 6 courses of today, narrowing the focus from IPv4 and IPv6, the different dynamic protocols, so it's a route-centric, network management-centric kind of course, and it has the new Network Automation, the things that we talked about earlier that are sort of key in terms of exposing Network Administrators to software-defined networking, bringing them forward in that respect.

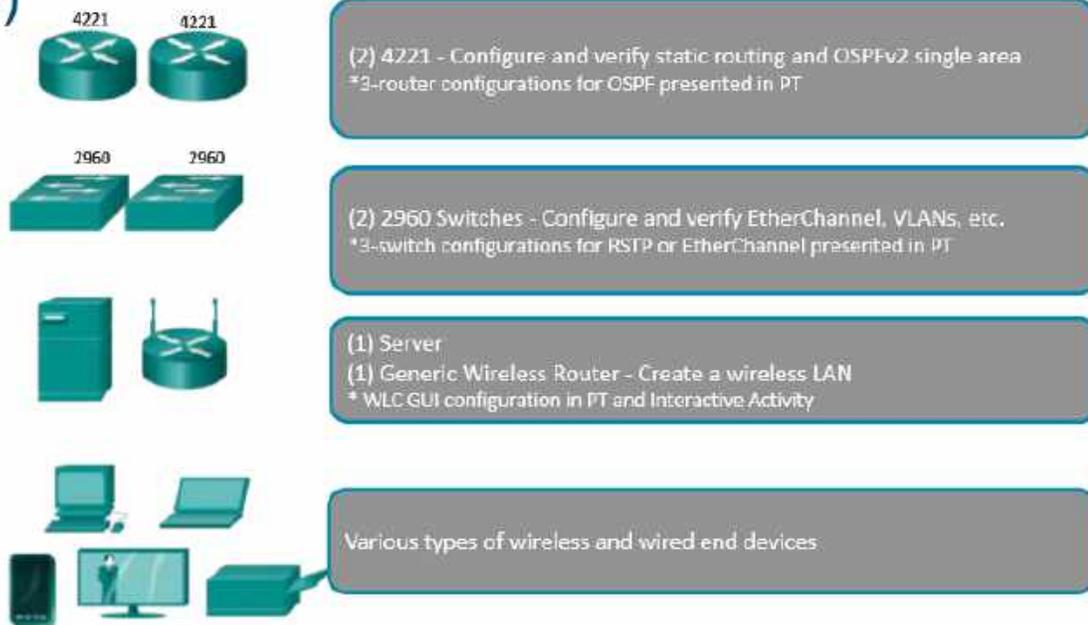
So, again, this is the module name summary. This is the sequence that they will be presented in, that you will be delivering the trainings in. As you go to that scope-and-sequence document, you can see from that you get insight into the key objectives, into the topics as well in a lot more detail.

CCNA 7.0 Recommended Lab Bundle

[00:34:28]

GREG COTÉ: All right, so let's go from the course composition and just talk about what this means from a lab standpoint. So, the lab equipment bundles that are used in version 6 are still applicable in version 7, so that's first and foremost, is we're going to leverage the existing infrastructure that's out there. There's also a lot of discussion about the 'can we reduce the topologies and make this more affordable and still have the right balance of complexity and develop the hands-on skills that we're looking for?'

CCNA 7.0 Recommended Lab Bundle (2nd draft S&S)



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So, what you see here is that the current equipment list requires 3-router/3-switch topology. The version 7 equipment list is reduced to 2 routers and 2 switches. So, the topologies or topics that required a 3-router topology or more than 2 routers are going to be covered in

Packet Tracer. Those enhancements to Packet Tracer are coming. So, those use cases or those labs are going to be covered through Packet Tracer.

And the only new component in the labs is, again, we've introduced wireless into the courseware in Course #2, so for that training delivery, there will be a need for a generic or just a generalized wireless router—not a wireless LAN controller, nothing fancy here, but this is something that believe existed at one time in the lab equipment expectations. But anyway, a plain, vanilla WPA2 wireless router is all that's needed—that's the only the new ingredient in the lab equipment expectations.

So, again, the scope-and-sequence document has all of this equipment definition. You can go there and take a look at that and just confirm and look at some of the specifics.

CCNA Instructor Qualification Mapping

[00:36:40]

GREG COTÉ: So, I think a key, wondering (if I'm an instructor), 'What does this mean to me?' So, here's what we've worked out from a mapping standpoint from version 6 to version 7...

CCNA R&S v6 Course Qualification(s)	CCNA v7 Qualification Earned	Materials to Review*
CCNA 1 (Intro to Networks)	CCNA 1	No additional
CCNA 1 (Intro to Networks) CCNA 2 (Routing & Switching Essentials)	CCNA 1 CCNA 2	CCNA2 v7
CCNA 1 (Intro to Networks) CCNA 2 (Routing & Switching Essentials) CCNA 3 (Scaling Networks)	CCNA 1 CCNA 2 CCNA 3	CCNA3 v7 + Bridging Course
CCNA 1 (Intro to Networks) CCNA 2 (Routing & Switching Essentials) CCNA 3 (Scaling Networks) CCNA 4 (Connecting Networks)	CCNA 1 CCNA 2 CCNA 3	Bridging Course

Read this as what you have today in terms of qualification in the first column for version 6, what you will earn for qualification in version 7, based on what you have today, and then what is the incremental material or subject matter that's needed to really prepare you to deliver on these version 7 courses.

So, in the case of CCNA 1, as I said, it's pretty much equivalent, so there's no additional material—it's just a straight, one-to-one mapping. If you ditch CCNA 1 version 6, the Intro to Networking course today, you can just continue with, really, just... The course might have some different look and feel, the platform will be a bit updated and new, but it will be very familiar, so there's no additional material associated with that mapping.

In the case of CCNA 2, or if you have qualified for 1 and 2 for the Academies who are focused on CCENT today, you will earn the new CCNA 1 and 2, but the incremental material that you'll need to absorb will come from CCNA 2 version 7. As I showed on that slide with the module names, there is incremental material for you to ramp and prepare for delivering on that version 7.

If you have already qualified for 1 through 3 or 1 through 4 (the last two rows here), you will be earning a qualification to deliver the CCNA version 7 new course 1, 2 and 3.

In the case of instructors who are qualified for the three, they will be expected to absorb the CCNA version 7, plus the bridging course. The bridging course is the incremental material, what I showed earlier as the new or significantly changed material. It will be captured in a single course, and that's going to be used, obviously, for the instructor preparations, as well as for, obviously, delivery to the students, who need to scan across that February 24th date that I showed, where the transition occurs in certification.

Then, I think a lot of you are already qualified to teach all four courses. Really, all of that delta or change information is going to exist in this bridging course. So, you'll earn the qualification for 1, 2, and 3, and you will be able to focus on the changes in this single bridging course that's shown on the right-hand side.

Now, the bridging course and the use of the version 7 CCNA 2 and 3 are key ingredients in preparing and ramping into this new subject matter. The additional way in which you will benefit and prepare yourselves for delivering new courses is to focus on the IPD Week offerings. There was an IPD Week back in May that included topics on automation. Those are archived—you can get access to those still. That would be some of the groundwork for the Network Automation and programmability changes that came to the certification.

Coming up in September, the week of September 23rd, there's another session. If you enroll in that, you will get, again, closer to fulfilling that understanding of all of the changes and all of the new material that's been put into the CCNA. So, we strongly encourage folks to take advantage of that, to enroll in that class. The link here will be in the slides. Obviously, those will be recorded as well.

The bridging course is a preparation element, the IPD Week is the second preparation element, and hopefully, you can take advantage of both of those and use them, become familiar with these topics. Again, some of these are brand new and have never existed in the certification space previously, so it's well worth taking advantage of these resources and options.

CCNA v7 Migration Guidance

Pre-Nov 2019	Dec+ 2019 → July 31, 2020		
Continue with CCNA v6	Academy Offering	Scenario	Recommendation
	Teach CCNA 1 & 2 Only	Start teaching 1 or 2	1. Switch to CCNA v7 2. If not possible or need to stay aligned with CCENT, continue with CCNA v6
	Teach CCNA 1-4	Start teaching 1 or 2 Start teaching 3 or 4	1. Switch to CCNA v7 2. If not possible or need to stay aligned with CCENT, continue with CCNA v6 1. Switch to CCNA 3 v7 + Bridging course 2. If not possible, continue with CCNA v6 + Bridging course

Pre—November 2019

[00:41:29]

GREG COTÉ: Then, the last point I wanted to touch on here was the migration. So, you're going to have, obviously, different constraints within your Academy. There are going to be different use cases that you're going to fall under, but as I mentioned at the beginning, on that timeline, the important date for course content availability is November of this year, and that's for the English versions of the courses. So, the expectation there is, all the way through that point, you'll just continue to deliver courseware using version 6.

After November → July 31, 2020

If you're focused in the Academy where you're delivering the CCENT trainings for CCNA 1 and 2, after November, after the new material becomes available, if possible (this dependent on the constraints and all of the academic rigor that's needed), move to version 7. Especially if you think about the version 6 CCNA 1 and version 7 CCNA 1 being the same, it's a very seamless transition. To capture the second course, you would just move to CCNA version 7 Course #2.

For the Academies in the more common use case who are actually involved in delivering all four courses, if you've delivered Course #1 and #2 and you're at that transition point in the early

part of the calendar year, again, if you have the agility and the capability to flip to version 7, that's the preferred path. But if not, then the expectation is that you would stay with the... Or if there's an obligation from the Academy to support student preparations for the CCENT (again, which runs out until July 31st), in those cases, you would want to stay with version 6 and then make the transition after that academic cycle.

And if you're an Academy who is sort of midstream at the beginning of the calendar year—so, you've done 1 and 2, for example, and now you're getting ready to start teaching CCNA 3 and 4—the recommendation there is to move to version 7 Course #3, plus the bridging material I've talked about, the new content, which is actually included in CCNA 2 as well as 3, bring those together, and combine that with the new CCNA 3, version 3, and shift over to that. Again, if that's not possible, if the program is built around the four-course model, if it's impossible to make that kind of a quick turn, then continue with the version 6, and then this bridging course that I'm talking about is really the mechanism for filling in the gaps and bringing students up to speed and preparing them for that new CCNA, again, that's going to become available at the end of February.

So, what I want to add to this is this is a very simplified migration strategy, and we're going to come forward with a more detailed and nuanced use case version of this over the next month, so if you don't see something here that feels right... I know there are concerns about constraints, concerns about overlap if you've already taught Course #2, and some of the material shows up in the new Course #3, that's going to be problematic, so we're going to work through all of those use case what-if scenarios and map all that out for you, just to give you some guidance that maybe is more applicable to your condition and provide that to you, like I said, within the next month.

Q&A

[00:45:29]

GREG COTÉ: So, I think that is the end of my section. Have we got time for questions, hopefully?

RICHARD GROTEGUT: Yeah, Greg, thank you so much. This is Richard. There are several questions that have come up on the chat that I've been trying to monitor. There was one question about the three courses that you mentioned (CCNA 1, 2, and 3). ***Are there course titles for those or names that you guys have come up with yet?***

GREG COTÉ: No, that is top of our to-do list. Obviously, the amount of change that's happened in Course #2 and #3 requires us to go back and rethink about 'what is the appropriate way to brand these?' So, that's something that we will share, obviously, before they get released and probably in the October timeframe—we'll actually put a stake in the ground and provide you with the official names for those courses.

RICHARD GROTEGUT: Great, thanks. So, then there were several instructors who... ***I don't know if they were lamenting or happy about there being no EIGRP or multiarea OSPF or version 3, and I'm thinking those are probably all moving to CCNP, where they used to be—is that correct?***

GREG COTÉ: Yes, and that's another motivation for you to join this September IPD Week training, is the next-level details. Sorry I didn't have time to go into that today here, but the next-level details showing where those topics that exist in CCNA today went to, or removed completely from... All of that level of detail is going to be shared. In the case you just mentioned, those dynamic routing protocols did get pushed up into the CCNP Enterprise core curriculum.

RICHARD GROTEGUT: Great, and then you mentioned (and we were happy to hear) that the CCENT exam was pushed out until July. That really works a lot better for our academic years that have long been scheduled. The spring schedule is already in the books, so that really helps, but ***what about the ICND2, the second exam—is that the same, July 31st?***

GREG COTÉ: No.

RICHARD GROTEGUT: Oh, OK.

GREG COTÉ: ICND2 really anchors to the full CCNA, along with the composite exams both end on February 24th.

RICHARD GROTEGUT: Right. OK, so got it. All right. So, they can anticipate they'll take the new CCNA version 7 cert if they wait until next summer.

GREG COTÉ: Right.

RICHARD GROTEGUT: That's all that will be available. Got you.

GREG COTÉ: Right.

RICHARD GROTEGUT: I don't know, Karen... I don't know if you saw any more. I know you were monitoring the chat, too, if you saw any more questions that maybe I missed?

KAREN STANTON: There's one from Michael Salviani *Do you suggest a full semester for CCNA 1 and then half-semester 3 and 4 to complete in one academic year?* I think he's talking about how would you suggest breaking up the curriculum in a full year? CCNA 1 in one semester and then CCNA 2 and 3 (Michael, I'm not sure if I'm getting that right) in half a semester each?

Anyway, that's the question that's there. I think it probably would depend, Michael, on your educational level—if it's a high school or community college—and where your students are at, but, Greg?

RICHARD GROTEGUT: Yeah, I would agree.

GREG COTÉ: Yeah.

RICHARD GROTEGUT: Go ahead, Greg.

GREG COTÉ: The only thing I can add to that is, in the current version 6, I think there's agreement or there's some understanding that the fourth course, the Connecting Networks course, is probably the one that has the least aggression amount of new material. It can be compressed. If any of the courses, that's the one.

In the new framework or in the new version 7, the development team actually tried to make a pretty equal distribution, so each of these courses is built around a 65- or 70-hour delivery expectation—it's not lopsided in that one course is significantly less than the others.

RICHARD GROTEGUT: Yeah, and I was just going to add that, over the years, there have been different approaches. Colleges, some of them offer them in 8-week courses. They still do that. They manage to get through the material, and others need the semester. So, I think that's still going to be some flexibility to be able to do that, and we're going to be all across the board on how they're delivered, and one thing we want to do is work together and learn best practices and, hopefully, Karen and I can connect our faculty members together and get their ideas and share them.

There's also a question there... Several that have come up on the chat, but Ben Izadi asked about whether... You know, most schools like the four-course sequence. It fits really well and helps with a certificate meeting the required number of units. *Is there a suggestion for the fourth course?* I was thinking maybe CyberOps might be a good course to add there. I don't know—any other?

GREG COTÉ: Yeah, that's a great question and interesting suggestion. So, I forgot to mention that, in addition to providing you with the course names next month, we're working with the internal teams in trying to do an analysis of applicable courses and portfolio, including things that are coming down the pike. We've got the DEVNET Associate course being developed that might also be a fit in the fourth slot. So, a candidate certainly would be the CyberOps DEVNET Associate TBD on that one.

The new CCNPs—that core course where some of the subject matter for the CCNA—was moved up to the CCNP Enterprise core. That's another possibility. Again, it sort of depends on the program and the level and what people feel is appropriate for that audience, but we're going to

put together a recommendation there, or at least some suggestions as far as what could fill that fourth slot.

RICHARD GROTEGUT: Yeah. Thanks, Greg. And of course, as always, we are teaching ICT topics, and there are other technologies and courses that we've always taught alongside our networking courses, so that could be cloud computing. Rick McDonald mentioned looking at maybe AWS as a course for the cloud computing connection.

KAREN STANTON: There was also from Jason about the switches used. I'm not sure—Greg, can you speak to that? *He said in here that the end of life for the 2600 switches has been announced. Is there a plan to replace the 2600 with something else?*

GREG COTÉ: Yeah, so the 2960s, actually, there are a lot of different flavors of that. The model that we use in the equipment list has not been announced end of life yet. The Catalyst 9200, which is sort of the replacement for the 2K Catalyst series switch, we are going to consider that as an option or an alternative, but for the next cycle, certainly between now and the next revision, the Catalyst 2960s are going to remain available. They're not going to be end of life. I think, like every product, Cisco is resistant to getting pinned down on when the ends-of-life will be for a product or solution, but the Product Managers have told me at least that there won't be anything announced sooner than 2 to 3 years, and then there's an availability support time that goes beyond that.

For the short and medium term, the 2960 is totally on point, and like I said, when we work through the auctions and we bring the Catalyst 9200 in as a consideration, Academies who want to invest and really future-proof themselves could look to that device, but there's a lot to sort out there. The new switches are a different model as far as the licensing, and there's a lot of change associated with the new switches and a lot of the new network devices, so we have to get that all sorted out and make it compatible and operationally friendly for the Academies.

Closing

[00:54:24]

RICHARD GROTEGUT: We're capturing there a lot of questions here regarding equipment, and that's certainly a concern of institutions that have to then invest in that equipment for their students. So, we'll try to collect those and get those out to you, Greg, and maybe you can find out more after the fact. I think we're running a little bit out of time here, Nicole and Steve. I think we're coming towards the end.

STEVE WRIGHT: Right, and of course, we'll be posting this video, which will be chapterized and transcribed eventually and the slides on our website for those of you who want to share it later with your friends or whatever. Unless there are any more questions, we're going to wrap it up, and I want to thank Greg Coté, Richard, and also Karen Stanton for the way they've been supporting the California community colleges for a number of years.

Next week (I just want to plug our next conference) will be NETLABS Virtual Labs Update with the latest from NDG. Shawn Monsen will be hosting that Educator Series. Shawn, do you have a minute to say something about what it's going to be?

SHAWN: Yeah! As you mentioned, NETLABS will be here next week to talk about some of their new offerings and specifically focus on their Cyber Competition, their online Cyber Competition offering. They'll have some of their customers that are using that product come in and talk about how they're using their online Cyber Competition product in the classroom.

STEVE WRIGHT: OK, so that should be very interesting. With that, we can wrap up today. Karen, do you have a last statement?

RICHARD GROTEGUT: So, Steve, I did have one last thing about WASTC, if I could just share that just a minute.

STEVE WRIGHT: Oh yeah, that's right—I'm sorry. Go ahead.

RICHARD GROTEGUT: That's all right! So, Karen and I help with the Western Academy Support and Training Center, and we have many of our members that are on the call today. I just wanted to let you know that we have plans and we do support almost 300 Academies right now, and 67 of the 114 community colleges are Cisco Academies, as well as a number of high schools and universities.

Karen organizes and coordinates all of our instructor training schedule. It happens year round, and we are gearing up already. Our instructor trainers are pouring over the scope and sequence of the new courses and already mapping out their plans for how to train instructors, both through bridging and also through... You know, you could always sit in on our courses, even if you're already certified to learn the new technologies as well.



The slide features the Western Academy Support & Training Center logo in the top left corner. A central white box contains the word "CONTACT". Below this, two columns of contact information are presented. The left column lists the WASTC Director, Richard Grotegut, with his phone number (925-354-8785) and email address (richard.grotegut@wastc.org). The right column lists the WASTC Coordinator, Karen Stanton, with her phone number (818-635-5772) and email address (karen.stanton@wastc.org). At the bottom center, a white box contains the website URL <http://www.wastc.org>.

Role	Name	Phone Number	Email Address
WASTC Director	Richard Grotegut	925-354-8785	richard.grotegut@wastc.org
WASTC Coordinator	Karen Stanton	818-635-5772	karen.stanton@wastc.org

<http://www.wastc.org>

So, here's our contact information, there's the website, and Karen is working on organizing the new training for CCNA as well as CCNP when it comes up. Karen, do you want to add anything to that last slide?

KAREN STANTON: Hi, yeah! I have been working with our instructor trainers, and, Greg, you can correct me if I'm wrong, but I think that our instructor trainers will be getting some first look, especially at the new content that's going to be coming in. They obviously already know the technology for everything we've been teaching in the past.

So, this fall, as soon as we get those new looks, our instructor trainers will be adding that content to the instructor training classes we have that we will be teaching during the fall. So, I feel pretty confident we'll be able to get you in a good place for running the new curriculum.

Then, also, Richard and I are looking at being able to offer some really excellent refresher classes, so you will be certainly able to... You know, if you're already qualified with CCNA 1 through 4 or you saw the list of classes that you can teach, depending on what you're teaching now, you certainly won't be required to do any instructor training, but if you would like to see the new content with an instructor trainer, we will be putting together some refresher classes for that. So, yeah, we're really looking forward to doing that. I've been working with my instructor trainers, trying to look forward and see what we can do, so you can look forward to those sorts of offerings from us, moving forward.

And there was one other... I don't know if it was a request or a suggestion from Greg out in Arizona—another Greg—suggesting that, since CCNA Security will have a badge associated with it and the course isn't going away, he thought it would be an excellent opportunity to add the CCNP Security as an ongoing course. So, that was just a comment for you, Greg.

GREG COTÉ: Yeah, absolutely.

KAREN STANTON: Great, thank you. I might just forward his note to you, too. I think that's all I'm seeing at the moment. There are a few others, and maybe we can connect with those offline.

RICHARD GROTEGUT: Thanks again.

KAREN STANTON: Thank you.

RICHARD GROTEGUT: Yeah, thanks, Steve and... Yeah, happy to help support this program and go into my 23rd year!

STEVE WRIGHT: OK, well, thank you all for showing up today and joining our conference every Friday at 10 o'clock, except for holidays. Look at our schedule, join us next week, and thanks again to Nicole Sherman, our producer, for putting all this on and, Greg, for spending his time with us today. Thank you very much.