



Course and Technical Updates

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#NetAcadIPD



Agenda

- New Cisco Certifications and CCNA v7
- NetAcad.com Upgrade
- Packet Tracer
- IT Essentials 7
- Cybersecurity Pathways
- IoT Security Course
- Instructor Professional Development



World of **Networking** Engineers

World of **Software Developers**



Automation

Software-defined infrastructure programmability



Application Economy

Speed of development, shift from IT to LOB, cloud offers quick and easy



Multi-Cloud

New expectations for speed, scale, and security



Internet of Things

Connectivity increases value, edge computing and analytics



$\textbf{AI/ML} \And \textbf{Business Insights}$

For increased performance, reliability, and security



DevOps & Cloud

Powerful developer tools, APIs and open source, CI/CD and DevOps are enablers

Key Elements of Cisco Certifications Changes



Closer Look at New CCNA



Solid IP foundation including coverage of digital transformation technologies

- Virtualization
 - Cloud

- Security
- Automation

Wireless

- Network Programmability
 - Analytics



Closer Look at DevNet Associate Certification

CISCO CERTIFIED DEVNET Associate

Cisco Certified DevNet Associate

Validate these skills

- Software Development skills (python, git, JSON)
- Ability to securely use REST APIs
- Understanding of containers, microservices, and CI/CD pipelines
- Infrastructure Automation & DevOps skills
- Knowledge of Cisco Platform Capabilities

Deliver Outcomes

- Build software applications as part of a team
- Build Network Automation scripts
- Build tools for logging, monitoring and testing



Creates opportunities to attract new instructors, departments and academies



52k+ NetAcad users already using DevNet (13% of total)



Emerging Tech Workshops & programming courses target network programmability



Future course offering

The IT Team of the Future

World of Infrastructure Engineers



World of **Software Developers**

Cisco will help build this

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We're with you, every step of the way



Draft Scope & Sequence Equipment lists, teaching scenarios New CCNA curriculum & cert prep materials available in November (translations to follow)

New Certs February

2020

Eight month lead time, to complete your current program Landing page now available on NetAcad.com with key resources including FAQs. S&S available to field and partners now. General availability June 26th

https://www.netacad.com/group/resources/launch

NetAcad.com Upgrade



Laying The Foundation

Limmediate Enhancements

- Enhanced security
- Single account for NetAcad.com & Cisco CCO resources
- Faster performance
- Better reliability and uptime

Future Enhancements

- More streamlined & intuitive UX
- Improved mobile access
- Support for badging
- Data-driven decisions/analytics

What's Changing

*#

Major Upgrades

- Platform for academy, class and user management
- Community collaboration
- Identity and Access Management



- Learning Management System
- Courses
- Assessments



Familiar User Interface

Mobile-friendly, improved accessibility and usability

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Platform Translation

11 Profile Languages Supported

7 Languages fully translated: Arabic, Simplified Chinese, English, French, Portuguese, Russian, Spanish

+ 4 with translated student experience: Japanese, Traditional Chinese, German, Polish

Language

Français	\sim
العربية	
中文(简体)	
中文(繁體)	
English	
Français	
Deutsch	
日本語	
Polski	
Português	
Русский	
Español	

Cisco CCO Authentication

- Enables easy Single Sign-On (SSO) to other Cisco
 properties
- Ensures NetAcad stays up-to-date with the latest security advancements
- Permits future inbound SSO from partner institutions





Single Sign On (SSO) Account Migration Results



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Packet Tracer Updates

Packet Tracer for macOS



First official release of Packet Tracer on macOS

Now available for download!

https://www.netacad.com/group/offerings/packet-tracer/

The application requires administrative permissions to install.



Feature

 Feature parity with Cisco Packet Tracer 7.2.1 on Windows and Linux



Improvements

- Keyboard shortcuts are changed to use macOS key convention where applicable.
- Menus have been arranged according to macOS conventions.



Supported OS

• macOS High Sierra and Mojave are supported.

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PT 7.2.2

- Available now!
- PTSA and PTMO experience improvement
- Removes Java dependence completely
- (No new CCNA v7 technologies and protocols yet)



PT 7.2.2

- No more Java, Java updates, JNLP files or licensing concerns
- PTSAs can be done:
 - with 7.2.2+ and no Java
 - with <7.2.1 and with Java
- User must choose the option manually
- Support for old PT versions will be maintained for a limited time
- Upgrade to the latest version at your earliest convenience!



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IT Essentials 7

IT Essentials 7



Assessments

Topical selfassessments included Increased certification level practice opportunities

More assessments throughout the course



Practice

Designed with active learning in mind, with more opportunities to increase mastery with hands-on & experiences, reflection and collaboration.



Interaction

Reduced text More videos More interactive activities Instructors and student feedback

Self-Assessment

- Topic assessments added throughout the curriculum.
- 14 Quizlets
- 14 Chapter quizzes

Instructor Activated Assessments

- 1 Pretest Exam
- 14 Chapter Exams
- 2 Practice Course Final Exams July
- 2 Course Final Exams **
- 1 Comprehensive Final Exam
- 5 Certification Practice
 Checkpoints ^{*}
- 2 Certification Practice Exams

Outline Alignment

The outline of ITE v7 aligns directly to the Certification Domains

- 1. Introduction to Personal Computer Hardware
- 2. PC Assembly
- 3. Advanced Computer Hardware
- 4. Preventive Maintenance and Troubleshooting
- 5. Networking Basics
- 6. Applied Networking
- 7. Mobile Devices
- 8. Printers
- 9. Virtualization and Cloud Computing



1.0 Mobile Devices2.0 Networking3.0 Hardware4.0 Virtualization and Cloud Computing5.0 Hardware and Network Troubleshooting

10. Windows Installation
 11. Windows Configuration
 12. Mobile, Linux, and OS X Operating
 Systems
 13. Security
 14. The IT Professional



CompTIA A+ 220-1002 (Core 2)

1.0 Operating Systems
 2.0 Security
 3.0 Software Troubleshooting
 4.0 Operational Procedures

IT Essentials 7 Content Updates

ITE 6 Chapters



ITE 7 Chapters

"Scope and Sequence" is available in the IPD Week Course: http://cs.co/IPD19

Redesign of Chapters 1-3

ITE v6

ITE v7



Basic Taught in Chapter 1 (What) Intermediate Taught in Chapter 2 (How) Advanced Taught in Chapter 3 (Details)

Safety and Tool Usage Dispersed to Where it is Appropriate to Break Up the "Safety" chapter

Course Outline

	Section	Goals/Objectives
Chapter 1	Introduction to Personal Computer Hardware	Select the appropriate computer components to build, repair, or upgrade personal computers.
Chapter 2	PC Assembly	Install components to build, repair, or upgrade personal computers.
Chapter 3	Advanced Computer Hardware	Install and configure components to upgrade a computer.
Chapter 4	Preventive Maintenance and Troubleshooting	Perform Troubleshooting on personal computers.
Chapter 5	Networking Concepts	Explain how computers communicate on a network.
Chapter 6	Applied Networking	Configure devices to communicate on a network.
Chapter 7	Laptops and Other Mobile Devices	Explain how to troubleshoot Laptops and other Mobile Devices.
Chapter 8	Printers	Install a printer to meet requirements.
Chapter 9	Virtualization and Cloud Computing	Describe virtualization and cloud computing.
Chapter 10	Windows Installation	Install Windows operating systems.
Chapter 11	Windows Configuration	Perform management and maintenance of Windows operating systems.
Chapter 12	Mobile, Linux, and OSX Operating Systems	Explain how to configure, secure, and troubleshoot mobile, Mac, and Linux operating systems.
Chapter 13	Security	Implement basic host, data, and network security.
Chapter 14	The IT Professional	Explain the roles and responsibilities of the IT Professional.

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Course Overview

CCNA Cyber Ops introduces the core security concepts and skills needed to monitor, detect, analyze and respond to cybercrime, cyberespionage, insider threats, advanced persistent threats, regulatory requirements, and other cybersecurity issues facing organizations. It emphasizes the practical application of the skills needed to maintain and ensure security operational readiness of secure networked systems.

Benefits

Students acquire and applied skills in the rapidly growing area of cybersecurity operations at the associate level, with alignment to the Cisco CCNA Cybersecurity Operations certification.

Learning Components

- 13 Chapters, modifiable chapter . quizzes and chapter exams
- 13 terms & concepts practice auizzlets
- 54 interactive activities
- 45 hands-on labs (27 uses VM)
- 5 Packet Tracer activities

- One each: Skill-based assessment, practice final exam, final exam
- 2 certification practice exams
 - 1x 210-250 SECEND

 - 1x 210-255 SECOPS



Features

Target Audience: Students enrolled in technology degree programs at institutions of higher education and IT professionals who wants to pursue a career in Security Operations. Entry Knowledge: Basic operating system and networking knowledge

Languages: English

Course Delivery: Instructor-led

- Estimated Time to Complete: 70 hours
- Recommended Next Course: CCNA Security
- Instructor Training: Required

Equipment Requirements

Virtual Machine Name	Disk Space	RAM
CyberOps Workstation VM	7 GB	1 GB
Kali Linux VM	10 GB	*1 GB
MetaSploitable VM	8 GB	*512 MB
Security Onion VM	10 GB	4 GB (standard) 3 GB (alternate



* Not needed for alternate option

Lab Setup

Equipment Requirements

Curriculum requirements: 1 student Personal Computer (Desktop/Notebook) per student (recommended), at most 2 students per PC

Platform	Description	
Desktop PC	 OS: Windows 7, 8, or 10, MAC OSX Processor: Intel Core i7 4600U 2.7GHz (with Virtualization Support) Memory: 8 gigabyte (GB) RAM (standard) or 4 GB (alternate option). Practically 16 GB Display Adapter: PCI, PCIe (recommended), or AGP video card (DirectX 9 graphics device with WDDM driver) Disk: 45 GB hard drive. See table in the next slide for details. Network: 1 Ethernet Card or 1 Wireless Ethernet Card 	
Web Browser	The most recent version of Microsoft Internet Explorer, Google Chrome, or Mozilla Firefox with the most recent versions of Java and Flash Player installed.	
Oracle VirtualBox	The latest version. Currently 5.2.6	
Windows Experience Index (WEI)	6.5 (recommended)	
Packet Tracer	Version 7.0 Latest build	

NDG Online Labs as a Service - Topology



 Available on Cisco NetAcad LMS as part of a course template

Available on NETLAB+

If your organization is participating in the Cisco Networking Academy, you can use this course for Instructor-Led Training (ILT). To enable the NDG CCNA Cyber Ops labs, complete the following steps:

- From the NetAcad Home page, select the Teach tab
- Go to your CCNA Cyber Ops course and click Launch Course
- In the course, click on the "Modules" tab
- Click the publish icon on the right-hand side of the NDG Online lab service items. Repeat for each chapter where NDG labs are present.



*Please note that when clicking on the NDG labs, participants will be directed to the NDG Online Portal to create an NDG Online Portal account and to purchase the labs. For more information about the lab enrollment process, visit our <u>CCNA Cyber Ops Lab Enrollment Guide</u>.



NDG Online Labs as a Service – Hosted Labs



Networking Academy



- (1) One Month \$11.95
- (3) Three Month \$29.95
- (6) Six Month \$39.95
- School can purchase access for learners in bulk
- Instructors accredited to teach CCNA Cyber Ops can create class and use the lab service



IoT Security Course

The Networking Academy Learning Portfolio

Aligno to Costification					
Aligns to Certification	* Available within 12 months	Introduction to Packet Packet Tracer	Hackathons Prototyping Lab Internships		
Self-paced	Exploratory	Foundational	Career-Ready		
Networking		 Networking Essentials Mobility Fundamentals Emerging Tech Workshop: Network Programmability Using Cisco APIC-EM 	 CCNA R&S: Introduction to Networks, R&S Essentials, Scaling Networks, Connecting Networks CCNP R&S: Switch, Route, TShoot 		
Security	Introduction to Cybersecurity	Cybersecurity Essentials	CCNA Security		
IoT & Analytics	🔨 Introduction to IoT	IoT Fundamentals: Connecting Things, Big Data & Analytics, IoT Security Hackathon Playbook			
🚯 OS & IT	🔨 NDG Linux Unhatched	NDG Linux Essentials	 NDG Linux I NDG Linux II 		
Programming		 CLA: Programming Essentials in C CPA: Programming Essentials in C++ PCAP: Programming Essentials in Pytho Emerging Tech Workshop: Experimenting with REST APIs using WebEx Teams 	 CLP: Advanced Programming in C CPP: Advanced Programming in C++ 		
Business	📌 Be Your Own Boss	📌 Entrepreneurship			
Digital Literacy	🔆 Get Connected				

IoT Security

Course Overview

The explosive growth of connected IoT devices enables the digitization of industries, but also increases the exposure to security threats. Upon completion students will be able to perform vulnerability and risk assessments, and research and recommend risk mitigation strategies for common security threats in IoT systems.

Benefits

Students seeking a career in the rapidly growing IoT and security domains will learn practical tools for evaluating security vulnerabilities in IoT solutions, perform threat modeling, and use risk management frameworks to recommend threat mitigation measures. These skills are relevant across IoT and other network architectures.

Learning Components

- Conduct end-to-end threat modeling and evaluate security risks within IoT solutions
- Discover and demonstrate a vulnerability using real-world penetration testing tools such as Kali Linux
- Gain hands-on experience with IoT Prototypes using a Raspberry Pi
- Increase awareness of emerging technologies used in the IoT Security space, such as Blockchain



Features

Target Audience: Vocational, 2-year and 4-year College, 4-Year University students

Prerequisites:

- IoT Fundamentals: Connecting Things course
- Networking and security knowledge equivalent of Networking Essentials and Cybersecurity Essentials

Languages: English

Course Delivery: Instructor-led

Estimated Time to Complete: 50 hours

IoT Security Course Outline

Chapter	Chapter Titles	Chapter Summary Description
1	The IoT Under Attack	Presents the cybersecurity risk associated with IoT, presenting the anatomy of important attacks. In the first chapter students learn also how to setup the lab environment with the Kali Linux distribution and Raspberry Pi.
2	IoT Systems and Architectures	Covers industry-standard for networking and IoT models to explain security requirements in IoT systems and explore the area of IoT threat modeling.
3	The IoT Physical Device Attack Surface	In this chapter students will learn about and discover physical vulnerabilities in a mock-up IoT system with physical access to a Raspberry Pi and other tools. Perform a threat modeling exercise in Packet Tracer to model IoT physical vulnerabilities.
4	IoT Communication Layer Vulnerabilities	This chapter deals with wired and wireless protocols and their vulnerabilities. Students will use Kali Linux to scan for vulnerabilities in the lab environment. Perform a threat modeling exercise in Packet Tracer to model IoT communication vulnerabilities.
5	IoT Application Security	Application vulnerabilities in local or cloud applications. In this chapter students will perform a MITM attack to exploit MQTT vulnerabilities in a lab environment. Perform a threat modeling exercise in Packet Tracer to model IoT application vulnerabilities.
6	Assessing Vulnerability and Risk in an IoT System	I the last chapter students will put everything together and learn about risk assessment and risk metrics. Use the STRIDE and DREAD models to identify and assess risk and use risk management strategies. Explore emerging technologies in IoT security such as Blockchain.

Hands-On Lab Activities

- All hands-on lab activities run in a separated network segment.
- Raspberry Pi serves as a physical model of a real-world vulnerable IoT system.
- Kali Linux is installed in a Virtualbox VM environment on the student's PC.
- Students develop skills using real-world cybersecurity tools to discover vulnerabilities.



Lab Equipment

Student pod:

□ Existing Cisco Prototyping Lab Kit from Connecting Things

- 1x Raspberry Pi with Cisco PL-App Image for IoT Security
- 1x USB-to-Serial (3.3V) cable
- 1 computer with
 - Cisco PL-App Launcher
 - IoT Security Kali Linux VM Image



Minimum: 1 pod per two students Recommended: 1 pod per student

Instructor Training Options*



* Consistent with other IoT Fundamentals courses.

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IoT Fundamentals: IoT Security

Instructor Course Resources Page

https://www.netacad.com/group/resources/iotf-security

In addition to this Overview PPT, you'll find:

- FAQ
- Instructor Training Approach
- Related Quick Links
- Specific resources for each course
 - IoT Fundamentals Curriculum Overview
 - Scope & Sequence
 - Self-paced Instructor Training URL (for experienced instructors)
 - Instructor PPTs
 - Instructor Lab Source Files
 - Student Lab Source Files
 - Release Notes

IoT Security Game



- Isolated Network Environment
- Teams playing to win
- "Capture The Flag" style
- Jeopardy type
- 3 levels rings
- 10 missions
- Quiz after every mission
- In open beta now interested?

Instructor Professional Development

IPD Week in 2018-19

157 sessions created by TFE and instructors





CISCO

9,445 instructors participate in the IPD Week course topics with to using the rest at API CLOUD todo

New CCNAv7. Topic delivered in May 2019

CCNA 7 – Technical Sessions

Торіс	Session	Recording	Presentation
	Getting to know Cisco DNA Center	J	
Natural Automation	Puppet, Chef and Ansible	J	
Network Automation	REST API and JSON Encoded Data	J	
	SDN an Open Source Demo	J	
Wireless	WLAN Fundamentals	J	
	Wireless Security	J	





NetAcad IPD Week September 23-27, 2019

IPD Week FY20

Join us quarterly in the Instructor Professional Development Week.

Our next IPD Week will be 23 - 27 September 2019.

Click below to register for September sessions.



IPD Week Course Enrollment Link http://cs.co/IPD20

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49 IPD sessions:

- 12 English
- 37 localized

18 languages

Focus of the week:

- CCNAv7 Tech. Topics such as Network Security, LAN Security, Virtualization, Cloud Computing
- New CCNA Certification
- IT Essentials v7



CISCO. Academy



Cisco is pleased to confirm

Awesome Instructor

has attended 6 hours of continuing education by participating in

IPD Week, September 2019

hosted by the Technical Field Engagement Team 23 – 27 September 2019

Kaun alderson

KAREN ALDERSON GLOBAL TECHNICAL MANAGER Corporate Affairs, Cisco

Program Updates

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

Program Updates Special Session CCNAv7

Technical Session Topics Include:

- Wireshark Tips & Tricks Part 5
- Network Security Concepts
- Virtualization and Cloud Computing
 CONA v7
- Overview of New Technical Topics in CCNA v7
- LAN Security Concepts
- IT Essentials v7 Deep Dive
- Network Virtualization
- & many more!

Help Us Spread the Word about IPD Week!



Tell your Instructors and Partners



Use the wording we provide to share about IPD Week



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Share our announcements on social media -**#NetAcadIPD**



Post in messenger groups

Become our quest speaker for German sessions!

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