



Cisco Networking Academy
Mind Wide Open

Cisco Networking Academy a vzdělávání v oblasti bezpečnosti

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Territory Manager – Europe

GFO, Corporate Affairs

Cisco Systems





Networking Academy at a Glance

Comprehensive ICT
Learning Experience

Globally Consistent,
Locally Relevant

Innovative Teaching
and Learning

Impact on Individuals,
Communities, Education

Public Private Partnership
Ecosystem Approach

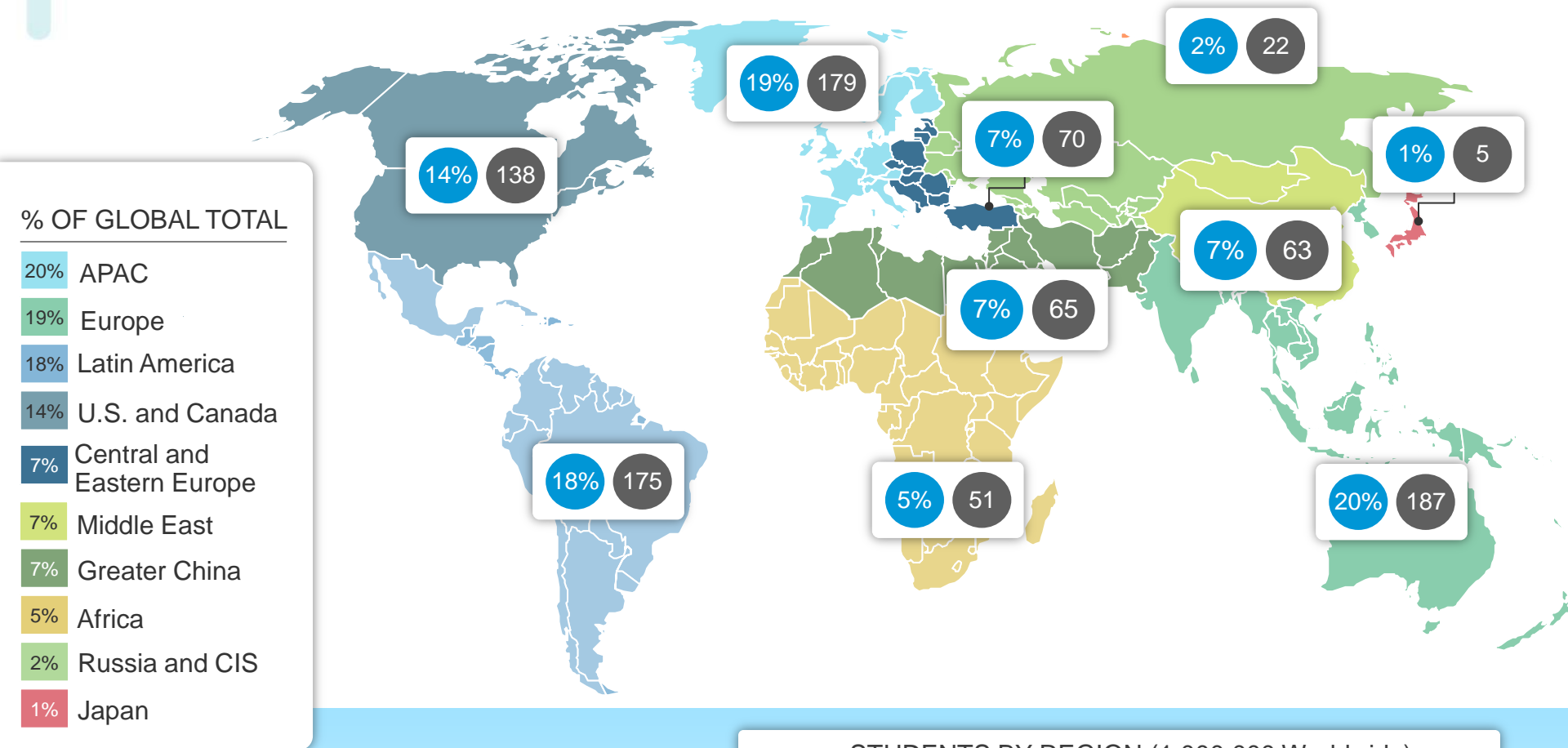
Proven and Sustainable



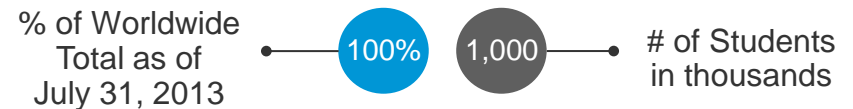


Large and Global Presence

Currently 1 Million Students Worldwide



STUDENTS BY REGION (1,000,000 Worldwide)





The World's Largest Classroom

Networking Academy Impact Since 1997

COUNTRIES WORLDWIDE

170

INSTRUCTORS WORLDWIDE

20,000

STUDENTS WORLDWIDE

4.2 Million +

ONLINE EXAMS TAKEN

100 Million +

ACADEMIES WORLDWIDE

9,000

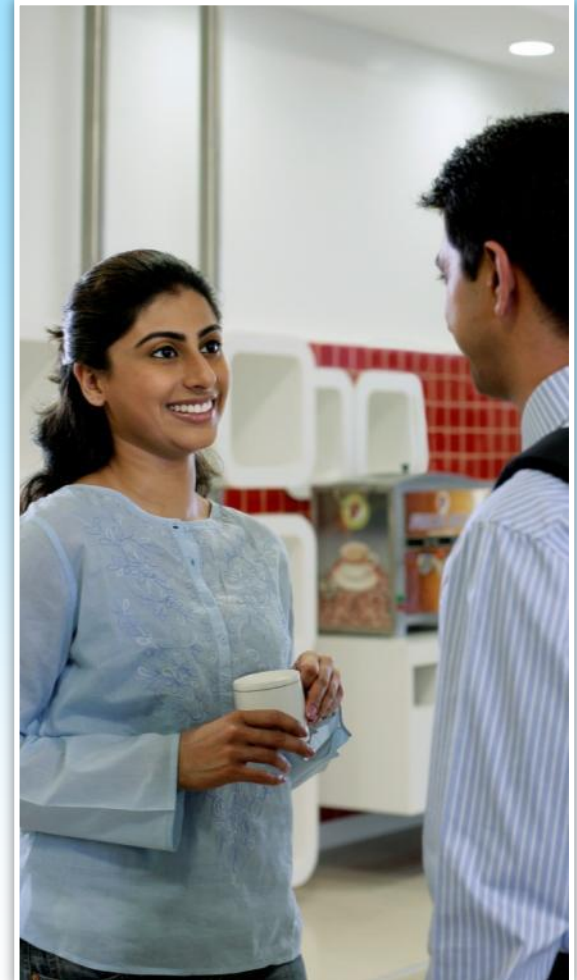
LANGUAGES

19



What Networking Academy Provides A Turnkey Solution for Educators

- High quality curriculum and learning tools
Available free to non-profit educational institutions
- Discounts on Cisco equipment and certification exams
- State of the art online assessments
Including quizzes, chapter and final exams,
and simulation-based skills exams
- Learning management system
Classroom management, integrated grade book,
teaching resources
- Instructor support, training, teaching resources,
and on-going professional development
- 24x7 online support in multiple languages
- Online instructor collaboration communities
- Alumni program and student resources



Courses with Embedded Rich Media Learning Activities

C:\CSICO_CCNALExploration\Theme\cheetah.html - Microsoft Internet Explorer provided by Cisco Systems, Inc.

7 Data Link Layer
7.4 Putting it All Together

7.4.1 Follow Data Through an Internetwork

1 2 3

CCNA Exploration
Network Fundamentals

Source

- 7 Application
- 6 Presentation
- 5 Session
- 4 Transport
- 3 Network
- 2 Data Link
- 1 Physical

Data Link layer puts data onto the media

The frame also indicates the upper layer protocol of IP-v4 with a value of 0800 in the Type field. The frame begins with a Preamble and Start of Frame (SOF) indicator and ends with a cyclic redundancy check (CRC) in the Frame Check Sequence at the end of the frame for the error detection. It then uses CSMA/CD to control the placing of the frame onto the media.

Ethernet II Frame

Protocol (LLC/MAC): 802.2/802.3
Media Access Control: CSMA/CD

Source Address: 08-05-9A-3C-78-00
Destination Address: 08-05-A3-B6-CE-04
Upper Layer (Type): 0800 (IPv4)

SOF: 10101011
Preamble: 10101011 (7 times)

Protocol (MAC): 802.3
FCS (CRC calculation)

Frame Check Sequence

Type

Start of Frame

MAC address: 00-05-9A-3C-78-00
MAC address: 00-08-A3-B6-CE-04

Router A Router B Fa0/0

Click to see the steps.

7.4.1.2

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start

89%

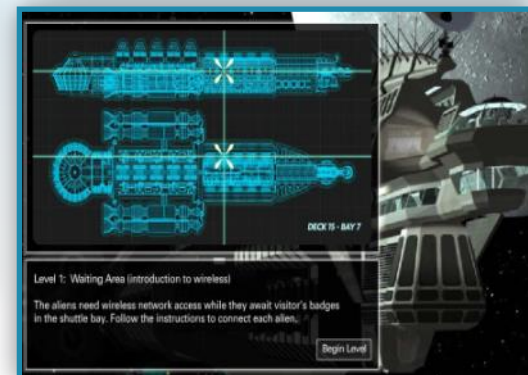
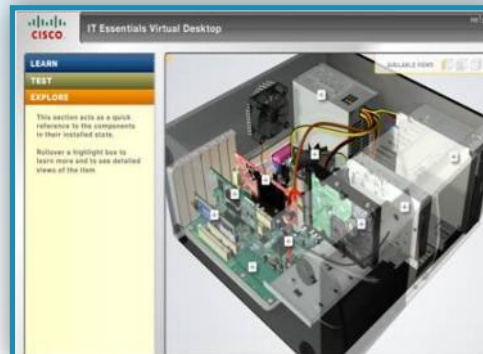
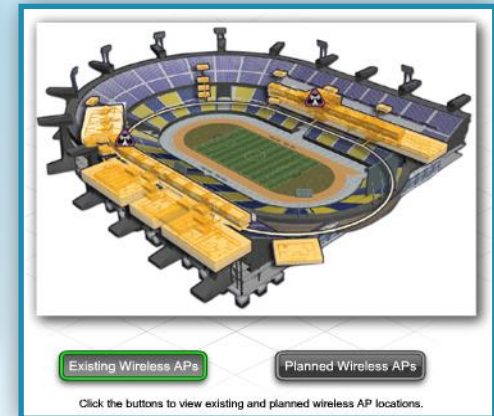
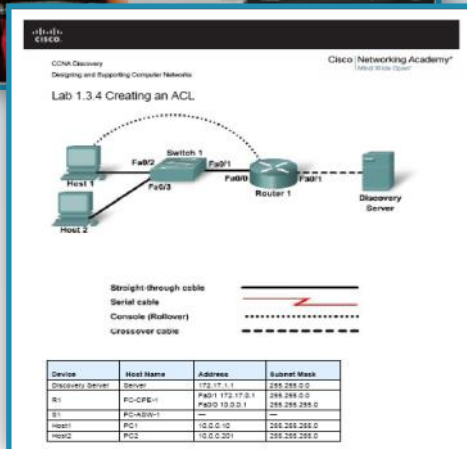
2:31 PM



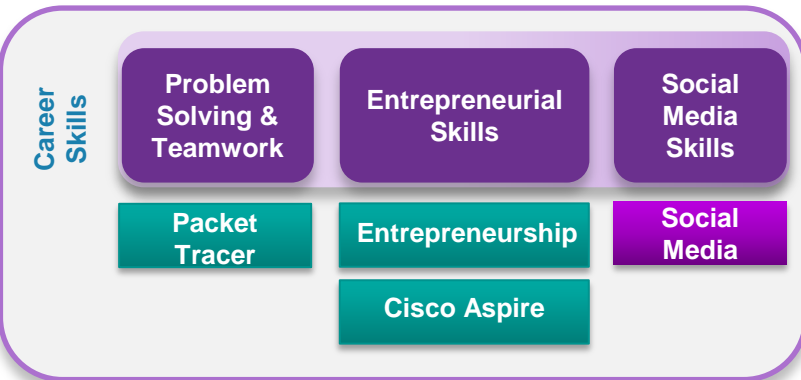
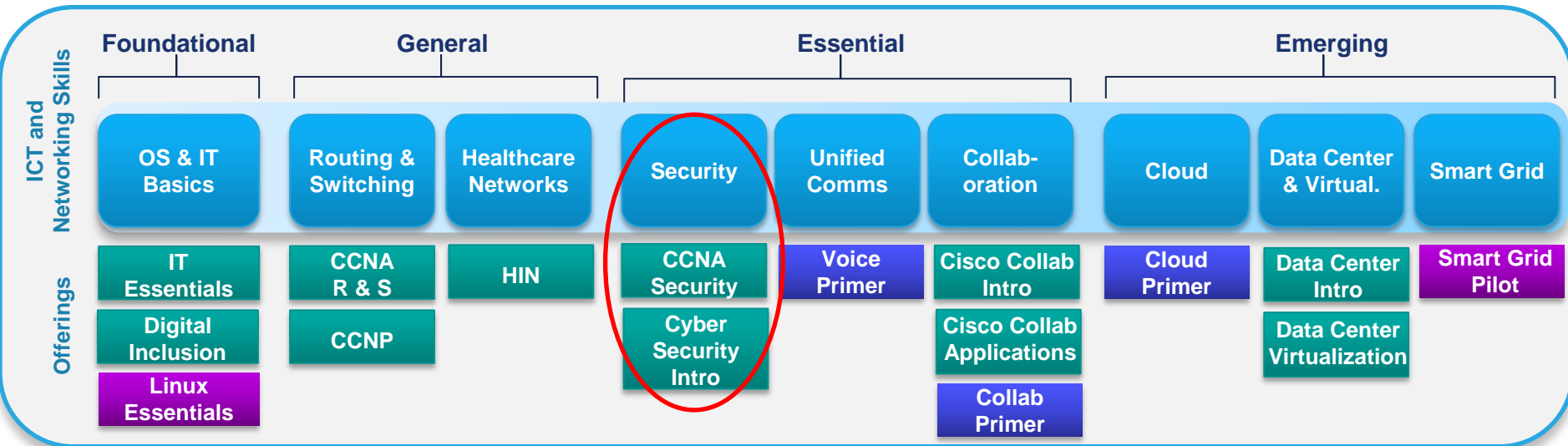
Hands-On Labs and Interactive Activities

Practical Application of Learned Skills

Integrated into the Online Curriculum



Networking Academy extended portfolio



Offerings > Certification Alignment:

ITE > CompTIA A+
CCNP > CCNP

CCNA R&S (courses 1 & 2) > CCENT
CCNA Security > CCNA Security

CCNA R&S (courses 3 & 4) > CCNA R&S

Cisco NetAcad Branded

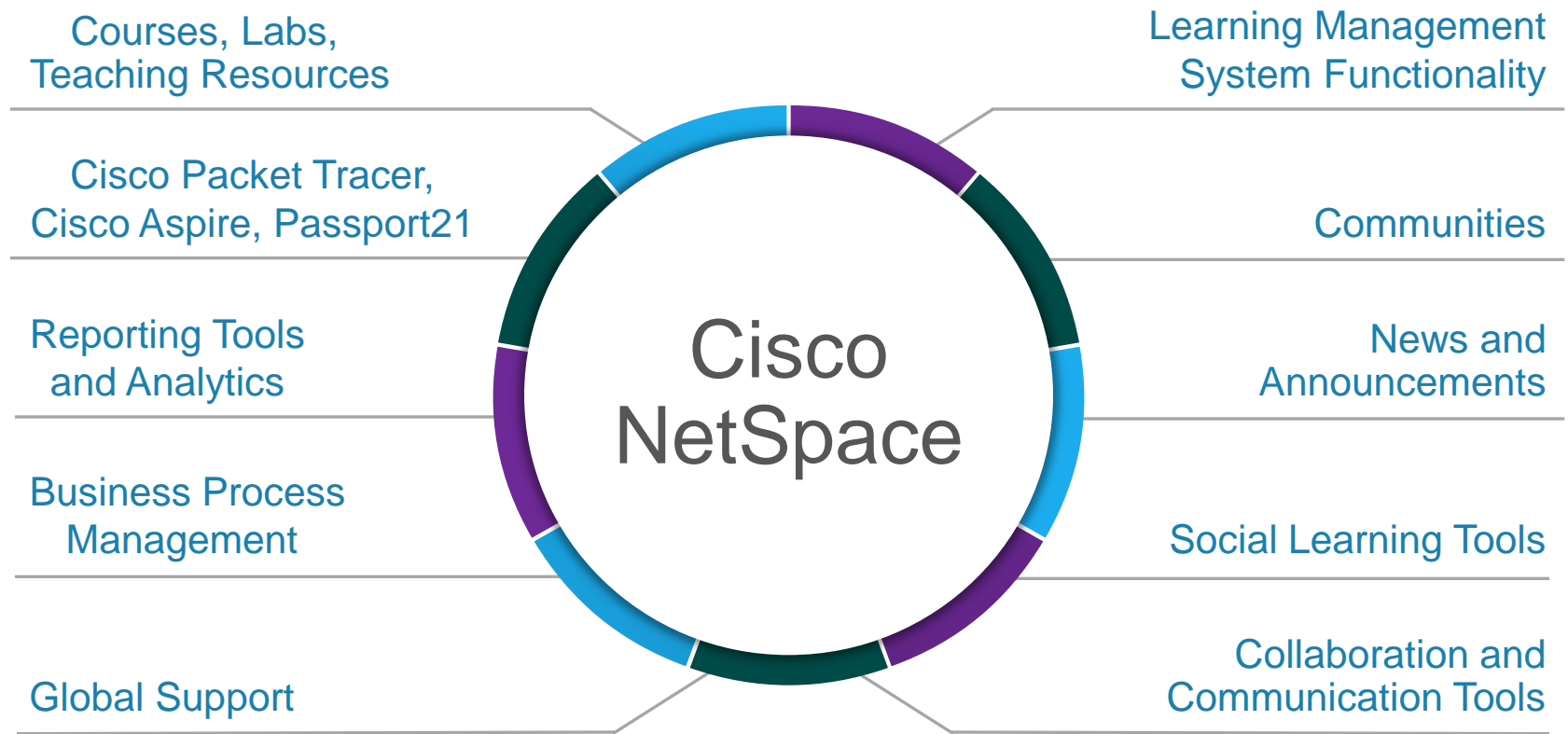
Community "Branded"

Partner Branded

Cisco NetSpace LMS



NetSpace Delivers a Total Solution



Makes Teaching Easier, More Productive



Add Your Own Content

Rich content editor allows you to easily add docs, embed videos, audio, photos, and links to NetAcad courses



Mobile Access

Stay productive anytime, anywhere with mobile access to grading, class calendar, and collaboration tools



LMS Content Migration

Easily migrate content you've already created in Blackboard, WebCT, Angel, and others to customize NetAcad courses



Reporting and Analytics

Rich data and analytics to help monitor and report on student outcomes and academy quality and success



Flexible Pedagogy

Built-in customization, collaboration, and communication tools support a variety of teaching styles



Communities

Collaborate with your peers in communities of interest—find, create, and share information in forums, files, and blogs

Engaging Classroom Learning Experience



Web 2.0 Services

Integrated Web 2.0 services so students and instructors have tools they already know and use daily



Groups

Easily form groups for class assignments, teams, study groups, or extra credit projects



Integrated Class Calendar

Drag and drop events into a single calendar with automatic notifications for changes—subscribe with Google Calendar, iCal, or Outlook



Submit Assignments Online

Allow assignments to be submitted online in a variety of formats: webpages, docs, videos, audio, slide shows

Notification Preferences

For conversations to which you're added

Email Me at ScreenName001@yahoo.com

For Alert notifications

Email Me at ScreenName001@yahoo.com

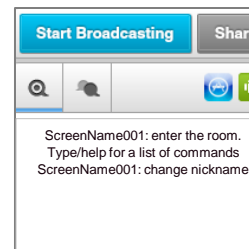
For new announcements

Email Me at ScreenName001@yahoo.com

For changes to appointment time slots

Communication Preferences

Receive class alerts and notifications via email, Facebook, or text message



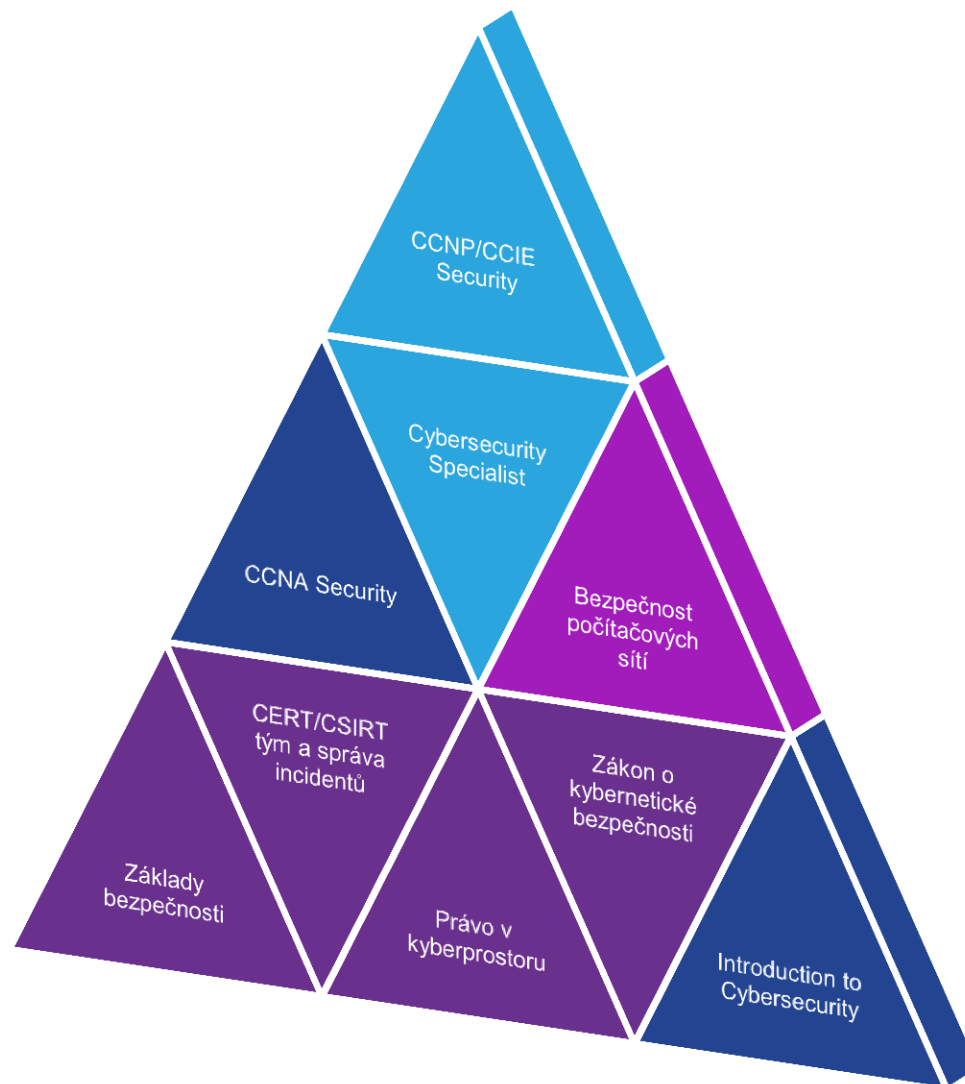
Chat/Video/Audio

Built-in video, live chat, and audio bring an extra dimension to the learning experience

Cyber/Security Courses



Cyber/security course portfolio



Cisco Professional Certification Matrix

Certification Tracks		Entry	Associate	Professional	Expert	Architect
Collaboration				CCIE Collaboration		
Data Center			CCNA Data Center	CCNP Data Center	CCIE Data Center	
Design	CCENT		CCDA	CCDP	CCDE	CCAr
Routing and Switching	CCENT		CCNA Routing and Switching	CCNP Routing and Switching	CCIE Routing and Switching	
Security	CCENT		CCNA Security	CCNP Security	CCIE Security	
Service Provider			CCNA Service Provider	CCNP Service Provider	CCIE Service Provider	
Service Provider Operations	CCENT		CCNA Service Provider Operations	CCNP Service Provider Operations	CCIE Service Provider Operations	
Video			CCNA Video			
Voice	CCENT		CCNA Voice	CCNP Voice		
Wireless	CCENT		CCNA Wireless	CCNP Wireless	CCIE Wireless	



Nabídka kurzů v Networking Academy

Komunitní kurzy (ČR)

- Základy bezpečnosti
- CERT/CSIRT tým a správa incidentů
- Právo v kyberprostoru
- Zákon o kybernetické bezpečnosti
- Bezpečnost počítačových sítí

Globální kurzy

- Introduction to Cybersecurity
- CCNA - Security

Komunitní kurzy (pro ČR)



Kurz: Základy bezpečnosti

- určeno pro všechny kategorie posluchačů
- školení v ČJ, materiály v ČJ, test v ČJ
- délka školení 8 hodin prezenčně + samostudium a test
- Obsah:

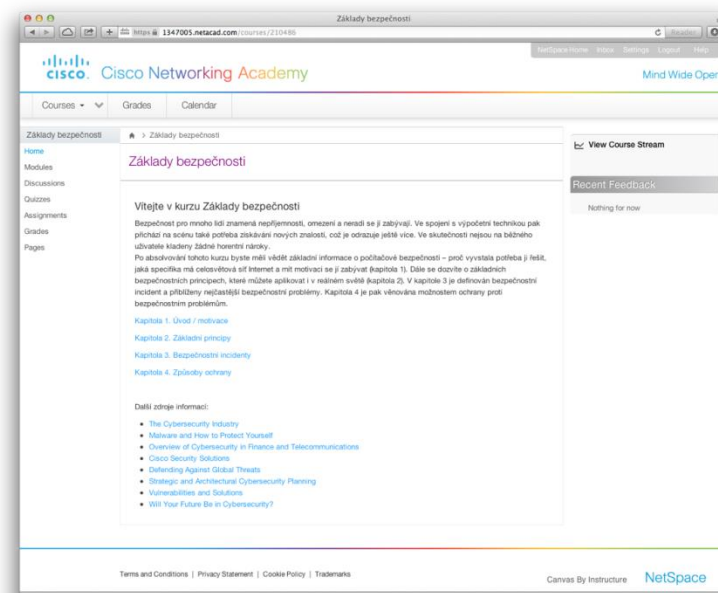
specifika kyberprostoru

základní principy bezpečnosti

nejčastější bezpečnostní incidenty

způsoby ochrany

počítačová gramotnost jako nejlepší prevence



Kurz: CERT/CSIRT tým a správa incidentů

- určeno zejména pro IT pracovníky
- školení v ČJ, materiály v ČJ, test v ČJ
- délka školení 8 hodin prezenčně + samostudium a test
- Obsah:
 - vznik a historie CERT/CSIRT týmů
 - úloha CERT/CSIRT, služby, pole působnosti
 - postupy zvládání a řešení incidentů
 - zajištění provozu CSIRT

Kurz: Právo v kyberprostoru

- určeno pro všechny kategorie posluchačů
- školení v ČJ, materiály v ČJ, test v ČJ
- délka školení 8 hodin prezenčně + samostudium a test
- Obsah:
 - působnost práva v kyberprostoru
 - autorská práva, jejich porušování a ochrana
 - kybernetické trestné činy
 - kybernetické útoky
 - sociální sítě

Kurz: Zákon o kybernetické bezpečnosti

- určeno zejména pro management
- školení v ČJ, materiály v ČJ, test v ČJ
- délka školení 8 hodin prezenčně + samostudium a test
- Obsah:
 - bezpečnostní incidenty a jejich dopad
 - formalizace - Zákon o kybernetické bezpečnosti
 - motivace, cíle a role ZKB v oblasti zajištění bezpečnosti kyberprostoru v ČR
 - výklad ZKB a doprovodných dokumentů (vyhlášky, prováděcí předpisy), oblast působnosti ZKB
 - požadavky na subjekty v působnosti ZKB
 - role národního a vládního CERT týmu dle ZKB

Kurz: Bezpečnost počítačových sítí

- určeno zejména pro IT pracovníky (základní znalost Cisco CLI)
- školení v ČJ, materiály v ČJ, test v ČJ
- délka školení 40 hodin prezenčně, zakončeno testem
- Obsah:

bezpečnostní hrozby

CiscoASA

firewall

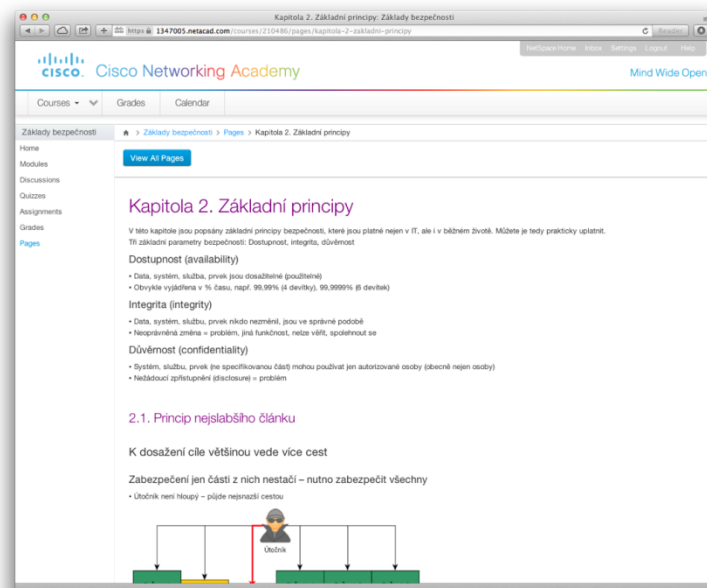
Intrusion Detection System

monitoring provozu

LAN Bezpečnost

bezpečný přenos dat

bezdrátová bezpečnost



Partneři a autoři komunitních kurzů



i-com-unity

Autoři kurzů:

- Jan Kolouch - PAČR, CESNET z.s.p.o.
- Michal Kostěnek - ZČU, CESNET z.s.p.o.
- Andrea Kropáčová - CESNET z.s.p.o.
- Aleš Padrta - ZČU, CESNET z.s.p.o.
- Michal Petrovič - ZČU, CESNET z.s.p.o., i-com-unity o.s.

Globální kurzy NetAcad



Introduction to Cybersecurity

- určeno pro všechny kategorie posluchačů
- školení v ČJ, materiály v EN, test v EN
- délka školení 5 hodin prezenčně, 20 hodin e-learning + samostudium a testy

- Obsah:

Cybersecurity Industry

Malware and How to Protect Yourself

Overview of Cybersecurity in Finance and Telecommunications

Cisco Security Solutions

Defending Against Global Threats

Strategic and Architectural Cybersecurity Planning

Vulnerabilities and Solutions

Will Your Future Be in Cybersecurity?

CCNA Security

- určeno zejména pro IT pracovníky (prerekvizita CCENT)
- školení v ČJ, materiály v EN, test v EN
- délka školení 35 hodin prezenčně, 35 hodin samostudium, zakončeno testem
- Obsah:
 - Modern Network Security Threats
 - Securing Network Devices
 - Authentication, Authorization and Accounting
 - Implementing Firewall Technologies
 - Implementing Intrusion Prevention
 - Securing the Local Area Network
 - Cryptographic Systems
 - Implementing Virtual Private Networks
 - Implementing Cisco the Adaptive Security Appliance (ASA)
 - Managing a Secure Network

Forma kurzů, organizace a kontakt

- Integrováno do e-learning systému Cisco NetSpace
- Online studijní materiály a testy
- Tištěné pomocné materiály
- Možnost videokonference – Cisco WebEx
- Realizace školení v lokalitě dle domluvy nebo v některé z našich 80-ti Cisco akademií po celé ČR
- Pilotní běh komunitních kurzů 01/2015 až 02/2015
- Kurzy organizuje:

i-com-unity o.s.

kontaktní osoba: Ing. Michal Petrovič

www.i-com-unity.cz

studium@i-com-unity.cz





Introduction to Cybersecurity course

- Introduces the importance of Cybersecurity and current trends in industry
- Content organized in 7 modules that include presentations and panel discussions with industry experts
- Activities, videos and additional resources for students to explore
- Assessments include a pre-test, 7 quizzes, 1 final exam
- Students can self-enroll
- Available in English
- Estimated time to complete: 20 hours



Introduction to Cybersecurity course in details

Objective / Value Proposition	<ul style="list-style-type: none">• Raise awareness on the growing need for Cybersecurity specialists• Training a cybersecurity workforce is now a national priority for many countries, demand has grown 3.5 faster than any other IT job
Target Audience	<ul style="list-style-type: none">• Students looking for an introduction to cybersecurity
Delivery Model	<ul style="list-style-type: none">• Self-enroll course offered directly to NetAcad students through NetSpace• Available in English only• No student prerequisite and no instructor training• Estimated instructional hours: 20 hours
Offering Components	<ul style="list-style-type: none">• Instructional framework• 8 modules of webinars and recordings and integration of community content
Cert Alignment	<ul style="list-style-type: none">• None
Completion Requirements	<ul style="list-style-type: none">• Student-activated course survey required to complete the course• Certificate of completion
Availability	<ul style="list-style-type: none">• March 2014

Introduction to Cybersecurity course outline

Module		Goals
1	The Cybersecurity Industry	<ul style="list-style-type: none">• Explain the importance of cybersecurity in the global economy• Explain why cybersecurity is a growing profession
2	Malware and How to Protect Yourself	<ul style="list-style-type: none">• Explain the characteristics and operation of malware• Explain how hackers use unsuspecting individuals to propagate malware
3	Overview of Cybersecurity in Finance and Telecommunications	<ul style="list-style-type: none">• Explain why cybersecurity is critical to the banking industry• Explain why cybersecurity is critical to the telecommunications industry
4	Cisco Security Solutions	<ul style="list-style-type: none">• Explain Cisco's approach to cybersecurity• Explain the behavior-based approach to cybersecurity
5	Defending Against Global Threats	<ul style="list-style-type: none">• Explain the characteristics of cyber warfare• Explain how Cisco Security Intelligence Operations (SIO) tracks and responds to a global threat
6	Strategic and Architectural Cybersecurity Planning	<ul style="list-style-type: none">• Explain trends in the cyber threat landscape• Explain the framework of the Enterprise Security Architecture
7	Vulnerabilities and Solutions	<ul style="list-style-type: none">• Explain why cybersecurity is critical to the medical devices industry• Explain the components of cloud security
8	Will Your Future Be in Cybersecurity?	<ul style="list-style-type: none">• Explain the opportunities for pursuing network security certifications

CCNA Security course

- CCNA Security equips students with the knowledge and skills needed to prepare for entry-level security specialist careers
- Content organized in 10 chapters in full multimedia courseware format
- Hands-on labs, Packet tracer labs
- Assessments include 10 module exams, quizzes, 1 final exam
- Instructor-led course
- Available in English
- Estimated time to complete: 70 hours

1 Modern Network Security Threats
1.2 Viruses, Worms, and Trojan Horses
1.2.4 Mitigating Viruses, Worms, and Trojan Horses 1 2 3 4 5

CCNA Security
Implementing Network Security

In the case of the SQL Slammer worm, malicious traffic was detected on UDP port 1434. This port should normally be blocked by a firewall on the perimeter. However, most infections enter by way of back doors and do not pass through the firewall, therefore, to prevent the spreading of this worm it would be necessary to block this port on all devices throughout the internal network.

In some cases, the port on which the worm is spreading might be critical to business operation. For example, when SQL Slammer was propagating, some organizations could not block UDP port 1434 because it was required to access the SQL Server for legitimate business transactions. In such a situation, alternatives must be considered.

If the network devices using the service on the affected port are known, permitting selective access is an option. For example, if only a small number of clients are using SQL Server, one option is to open UDP port 1434 to critical devices only. Selective access is not guaranteed to solve the problem, but it certainly lowers the probability of infection.

ISP A
ISP B
Core
Layer 3 Switch
Data Center
Workgroup 1
Workgroup 2
Remote Access
ACL Port Block
ACL Port Block
ACL Port Block
ACL Port Block

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CCNA Security course in details

Objective / Value Proposition	<ul style="list-style-type: none">• CCNA Security provides an in-depth, theoretical, and hands-on introduction to network security, in a logical sequence driven by technologies.
Target Audience	<ul style="list-style-type: none">• Students looking for entry-level security career opportunities and the globally recognized Cisco® CCNA Security certification
Delivery Model	<ul style="list-style-type: none">• Instructor-led course offered directly to NetAcad students through NetSpace• Available in English only• Course prerequisite: requires CCENT level networking knowledge• Estimated instructional hours: 70 hours
Offering Components	<ul style="list-style-type: none">• Full multimedia courseware format (10 chapters)• Hands-on labs, Packet tracer labs• Assessments include 10 chapter exams, quizzes, 1 final exam
Cert Alignment	<ul style="list-style-type: none">• Cisco® CCNA Security certification
Completion Requirements	<ul style="list-style-type: none">• Instructor-activated course final exam and hands-on skills exam• Certificate of completion
Availability	<ul style="list-style-type: none">• 2010

CCNA Security Course Outline

Course Chapters and Goals

Chapter 1	Modern Network Security Threats Goal: Explain network threats, mitigation techniques, and the basics of securing a network.
Chapter 2	Securing Network Devices Goal: Secure administrative access on Cisco routers.
Chapter 3	Authentication, Authorization and Accounting Goal: Secure administrative access with AAA.
Chapter 4	Implementing Firewall Technologies Goal: Implement firewall technologies to secure the network perimeter.
Chapter 5	Implementing Intrusion Prevention Goal: Configure IPS to mitigate attacks on the network.
Chapter 6	Securing the Local Area Network Goal: Describe LAN security considerations and implement endpoint and Layer 2 security features.
Chapter 7	Cryptographic Systems Goal: Describe methods for protecting data confidentiality and integrity.
Chapter 8	Implementing Virtual Private Networks Goal: Implement secure virtual private networks.
Chapter 9	Managing A Secure Network Goal: Create and implement a comprehensive security policy to meet the security needs of an enterprise.
Chapter 10	Implementing the Cisco Adaptive Security Appliance (ASA) Goal: Implement firewall technologies using the ASA to secure the network perimeter.