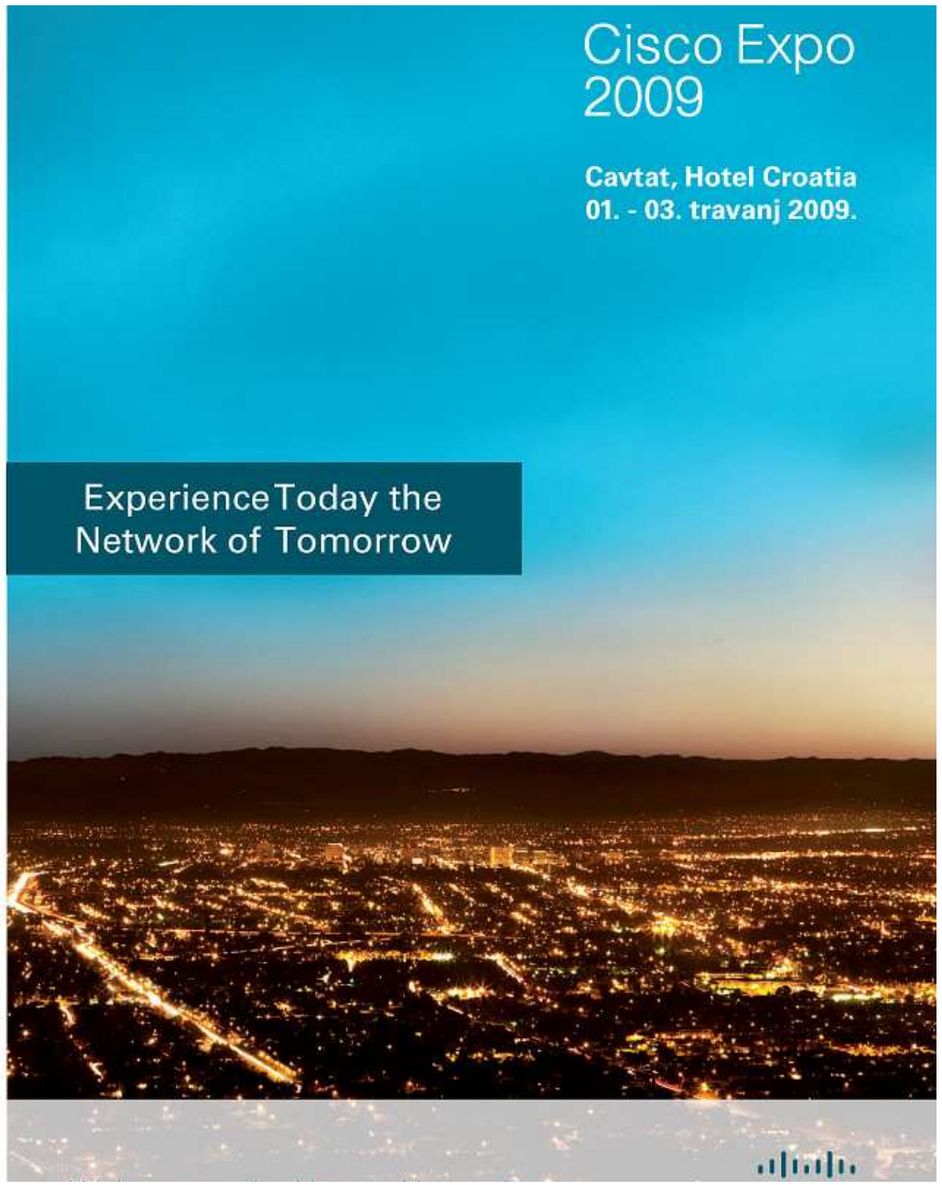
Cisco Networking Academy

Michael Furminger

Technical Advocacy

Europe



Sponzor konferencije

T · · Com ·

Partner digitalnog oglašavanja

RECRO net

Partneri konferencije

COMPUTECH · computer systems · IBM · KING ICT · RECRO net · STORM · Sedam IT · verso

Pokrovitelji konferencije

AMERICAN COLLEGE OF MANAGEMENT AND TECHNOLOGY · Microsoft · SAP

Tehnološki sponzori

ComTel Corp. · EMC² · mack it · Panduit · vmware

Medijski sponzori

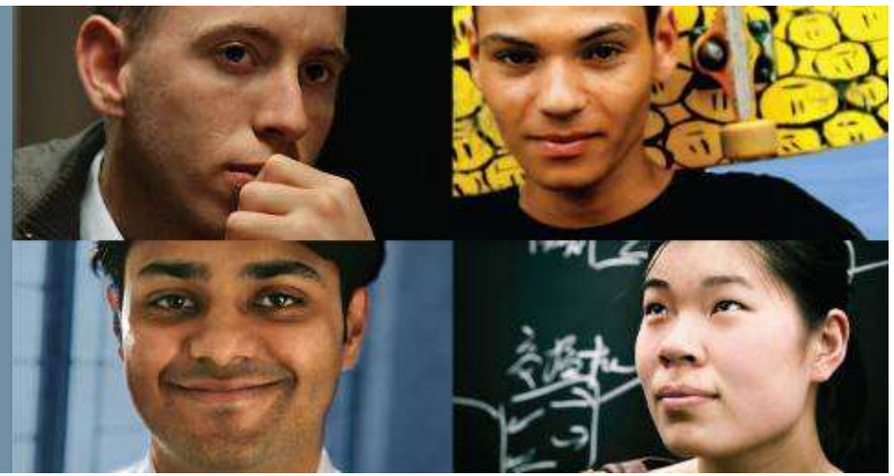
FORUM.HR · InfoTrend · MONITOR · MREŽA · PC chip · poslovni vjesnik

Cisco Expo 2009

Cavtat, Hotel Croatia
01. - 03. travanj 2009.

Experience Today the Network of Tomorrow

Cisco Networking Academy



Michael Furminger

Technical Manager Europe
Cisco Networking Academy

Cisco | Networking Academy®
Mind Wide Open™

Our Mission

Our education mission is to provide students and system leaders with the tools they need to raise not only the academic potential of each learner but the human condition of all.

Cisco Networking Academy Collaboration for Impact

CISCO

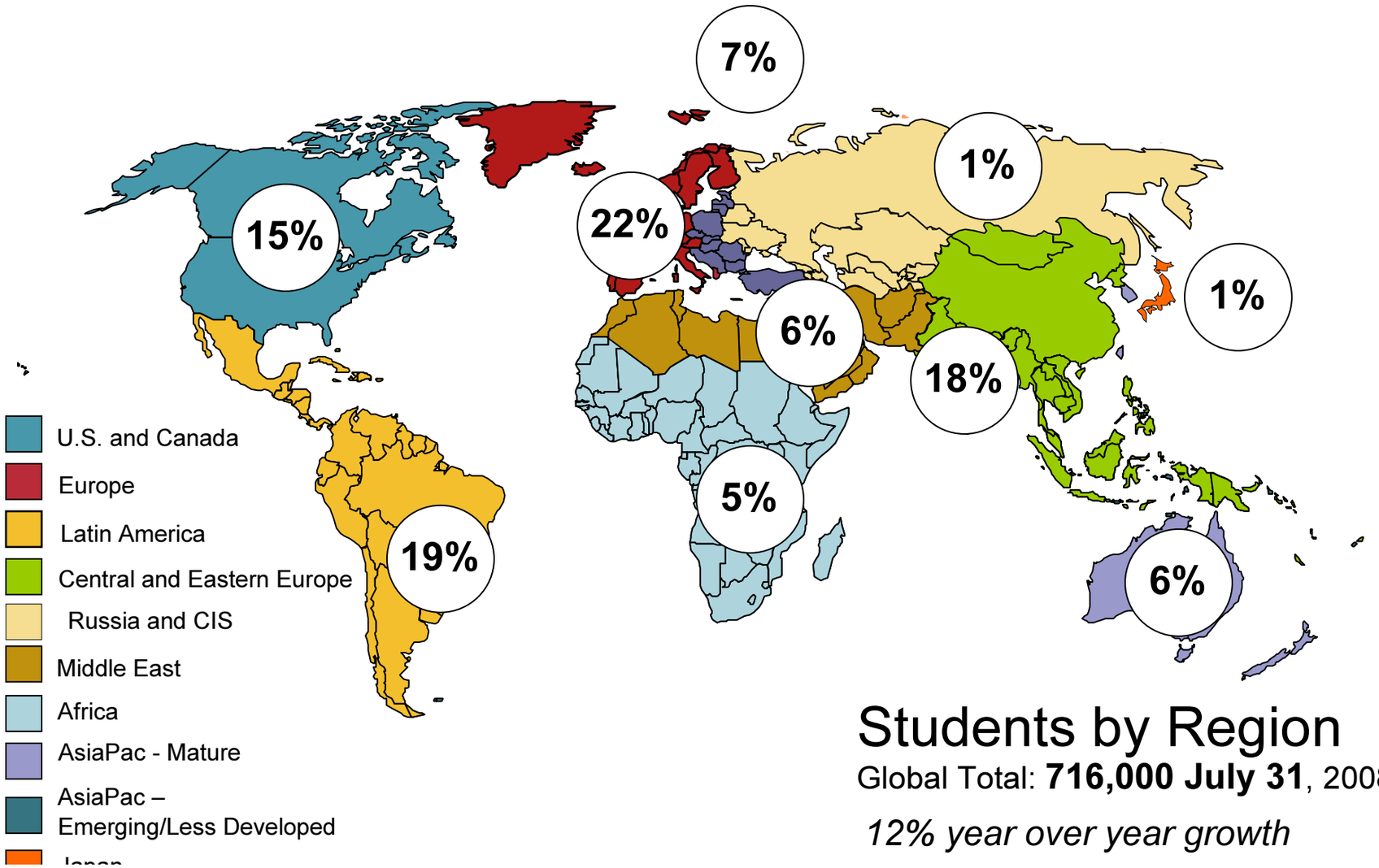
+

High School
Community Colleges, Universities

Entry-level IT & Networking Education

- Over 700,000 students annually
- Over 2.6 million students since inception in 1997
- Over 160 countries
- 19% female participation worldwide

Global Reach

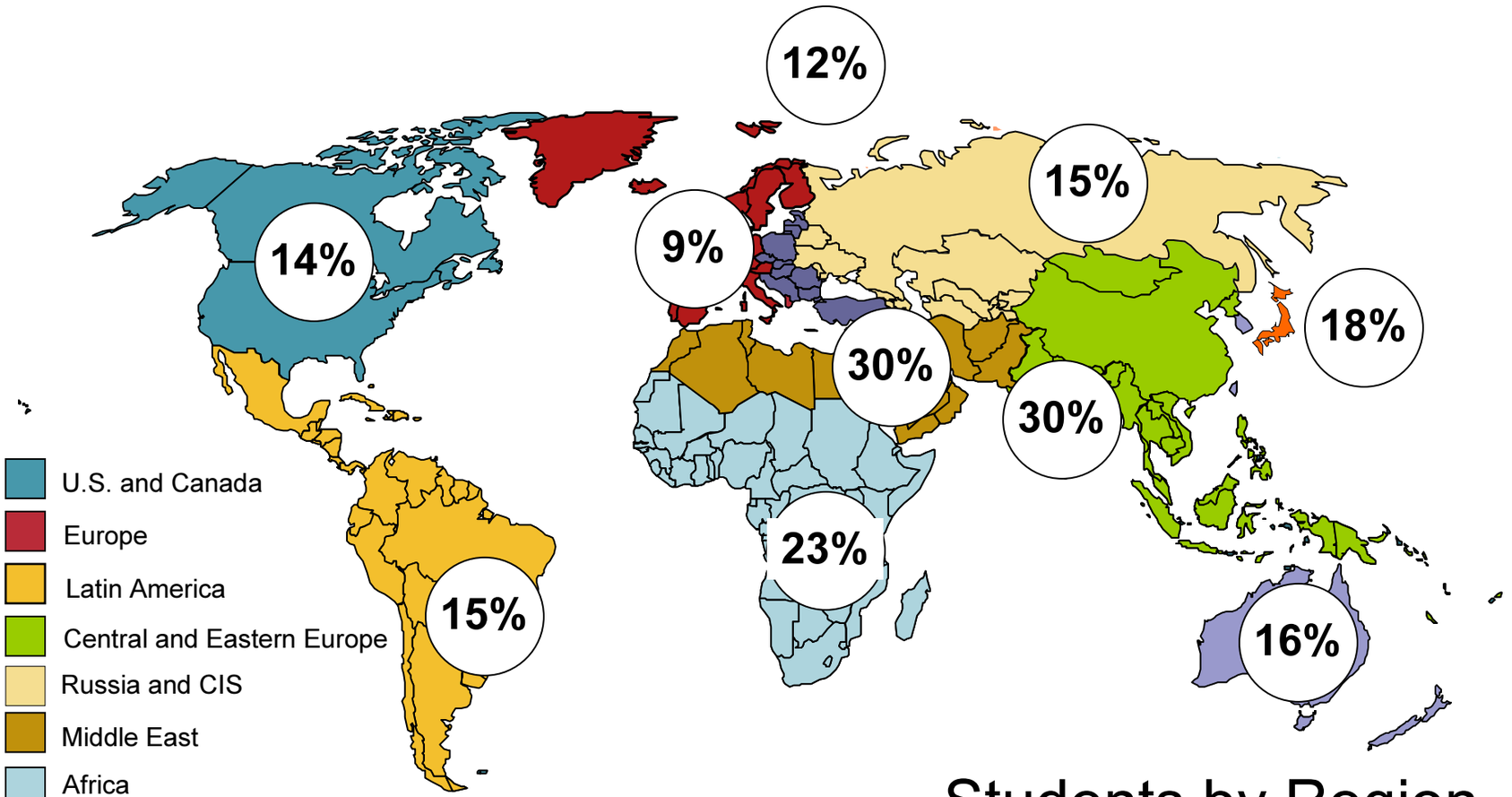


Students by Region

Global Total: **716,000 July 31**, 2008

12% year over year growth

Female Students



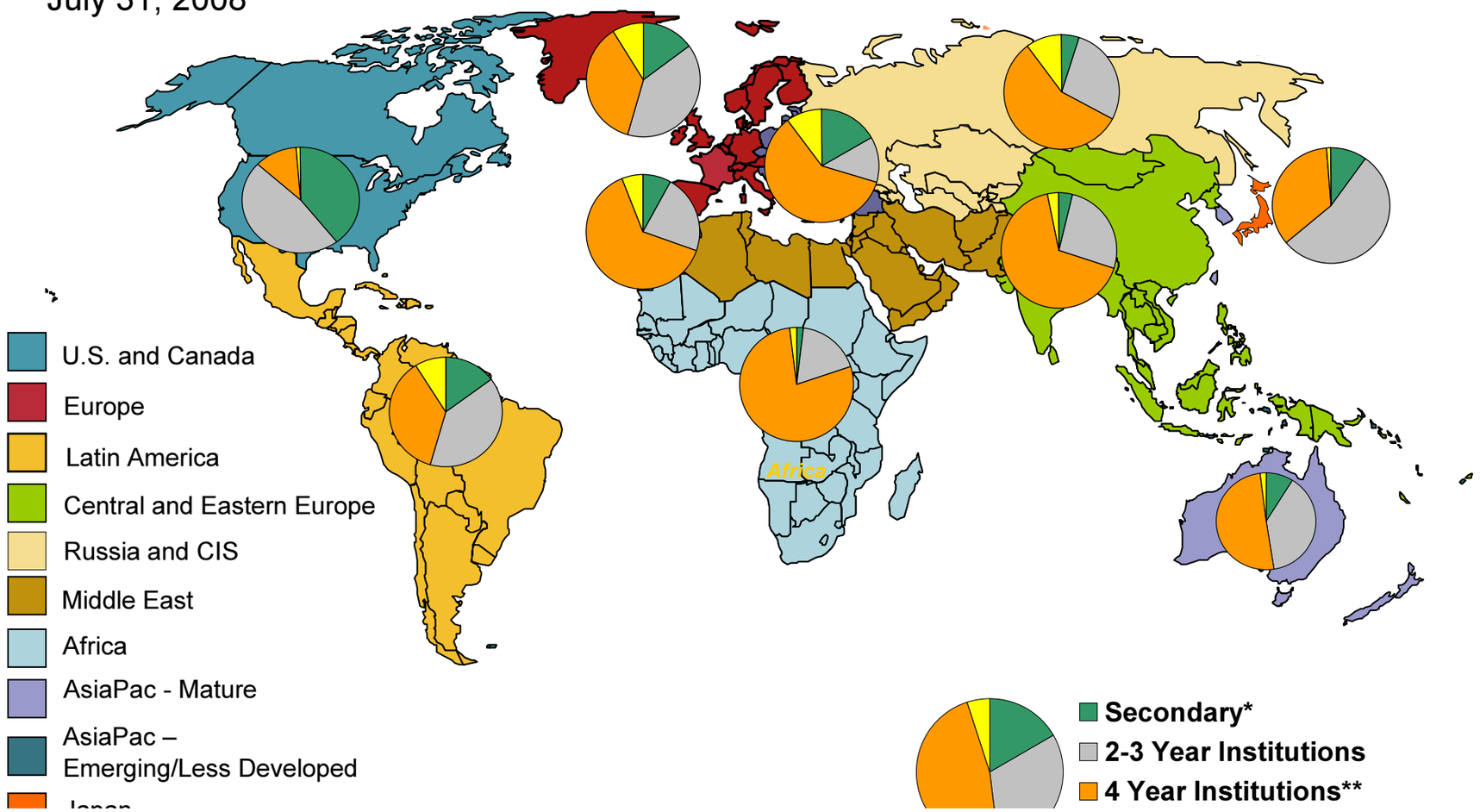
Students by Region

Global Total: **716,000 July 31**, 2008

19% female average

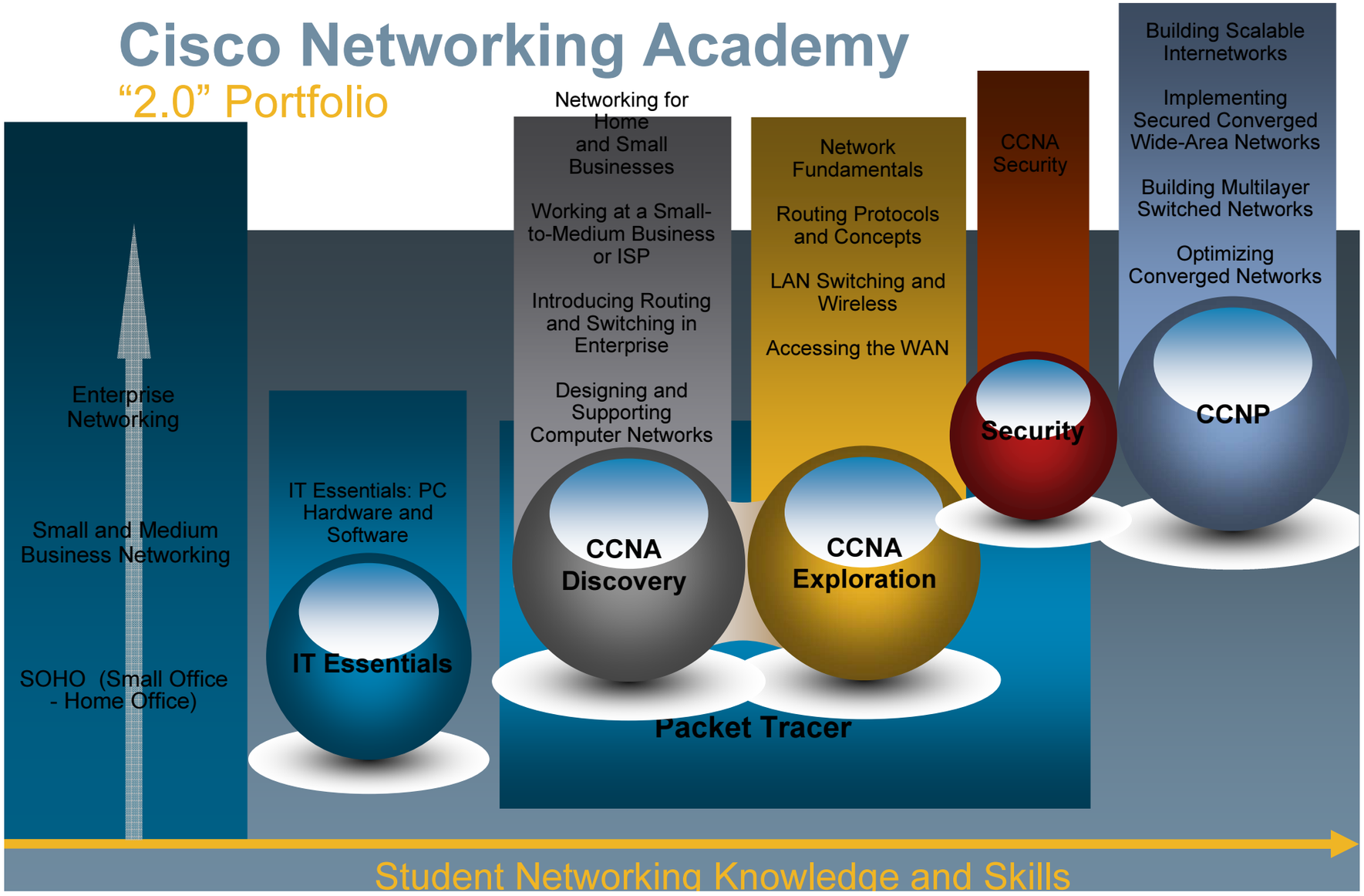
Diverse Educational Engagement

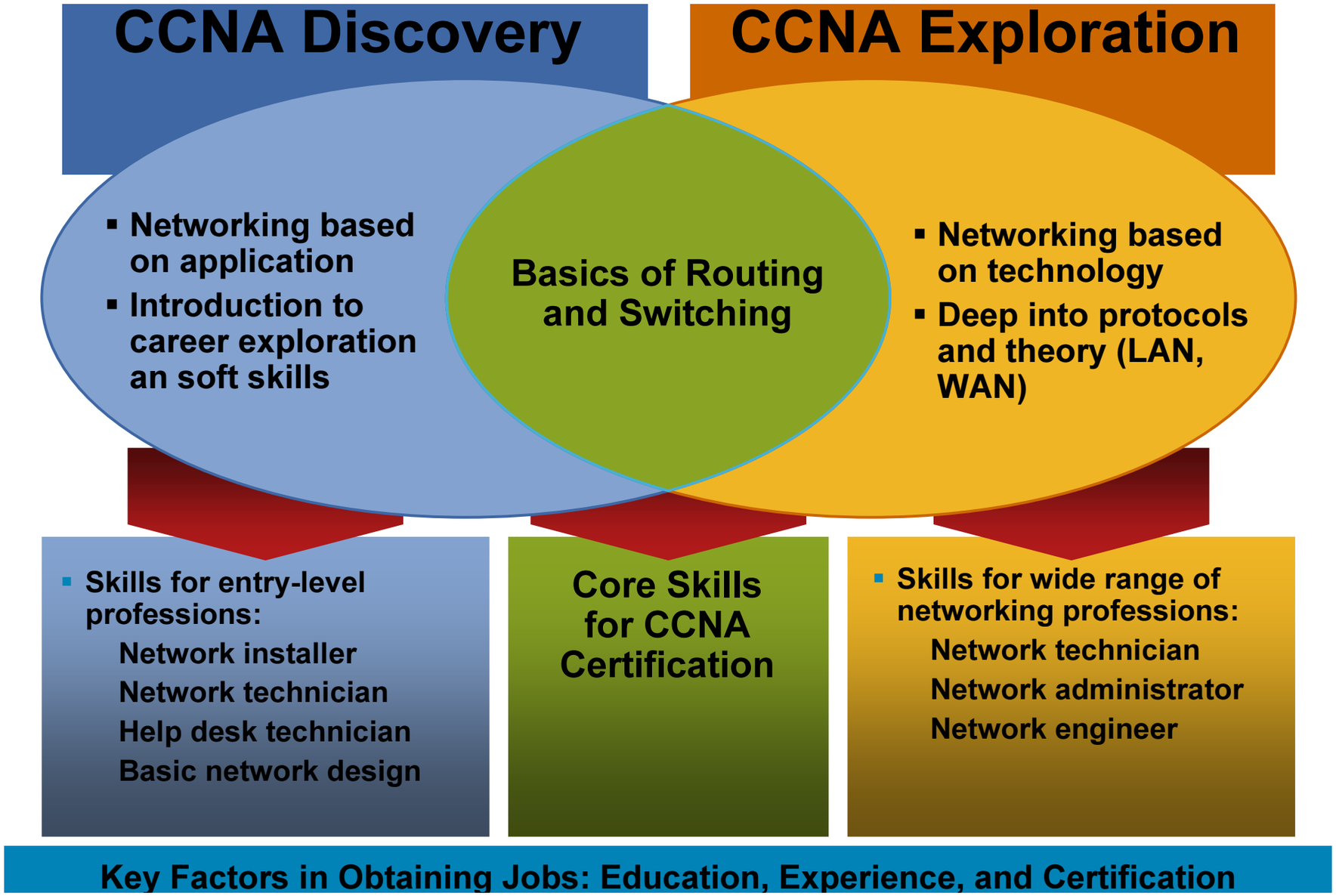
Global Total: 716,000
July 31, 2008



Cisco Networking Academy

"2.0" Portfolio




CCNA Discovery
CCNA Exploration
Networking based on application
Introduction to career exploration an soft skills
Basics of Routing and Switching
Networking based on technology
Deep into protocols and theory (LAN, WAN)
Skills for entry-level professions:
Network installer
Network technician
Help desk technician
Basic network design
Core Skills for CCNA Certification
Skills for wide range of networking professions:
Network technician
Network administrator
Network engineer
Key Factors in Obtaining Jobs: Education, Experience, and Certification

CCNA Exploration - Teaching Methodology

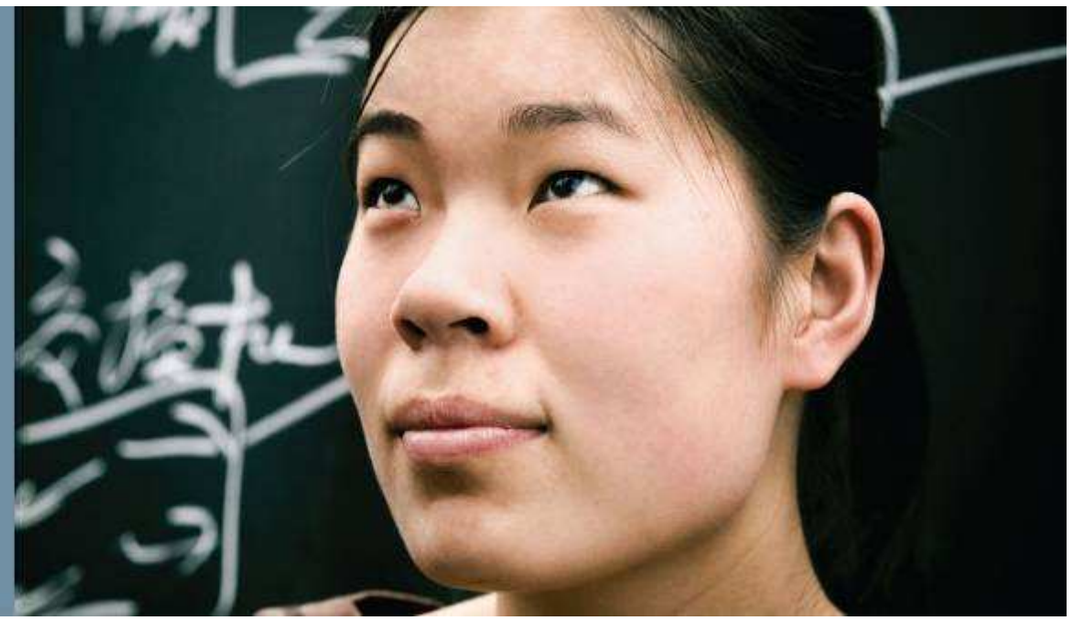
Skill	Course 1 – Network Fundamentals	Course 2 – Routing protocols and Concepts	Course 3 – LAN Switching and Wireless	Course 4 – Accessing the WAN
Routing	Introduces IP protocol, IP addressing and concept of routing. Basic IOS commands to configure router and router interfaces. Explore routing tables	Focuses on routing and routers. Teaches details on how to configure, verify and troubleshoot multiple routing protocols including RIPv1 and V2, EIGRP, OSPF and BGP.		
Switching	Concepts of Ethernet, switching and switches. Services offered by the data link layer. Basic IOS commands used in switches		Technologies and protocols to design and implement a converged switched network. Configure a switch for basic functionality. Configure, verify and troubleshoot Virtual LANs, VTP and Inter-VLAN routing. Implement spanning tree (IEEE 802.1D, PVST+, RSTP, PVRST+)	WAN technologies and devices required for network and Internet communications. Implement data link protocols including PPP, ATM, Ethernet, Frame Relay, HDLC.
Addressing	Network addressing. Assign IP addresses to Network and Devices. Classful and Classless addresses. Use of the network mask and the prefix length. Concept of VLSM	Detail review of the concepts of Classless Interdomain Routing (CIDR) and Variable Subnet Masking (VLSM)		Implement IP Addressing services for an Enterprise network, including NAT and DHCP. IPv6 addressing concepts. Use of Cisco SDM to implement IP addressing services and ACLs
Other	Application and transport protocols. Interaction of protocols services and applications. Design, cable, connect and configure a small Network using basic IOS commands for routers and switches		Components and operation of Wireless LANs (WLANs). Configure, verify and troubleshoot basic WLAN access and security	. Implement VPN analyze network vulnerabilities and implement security technologies ... Implement ACLs for traffic control Detect, troubleshoot and correct common Enterprise network implementation issues.

CCNA Discovery
Teaching Methodology

Skill	Course 1 – Networking for Home or Small Businesses	Course 2 – Working at a Small-to-Medium Business or ISP	Course 3 – Introducing Routing and Switching in the Enterprise	Course 4 – Designing and Supporting Computer Networks
Routing	Routing table operation	Introduce protocols; configure routes and routers	Configure InterVLAN routing, RIPv2, EIGRP, OSPF	Design, configure, and test EIGRP and OSPF
Switching	Introduce and practice broadcast domain, switch operation, MAC address table concepts	Configure switch management interface and port security, configure and connect switches	Configure VLAN membership, Spanning Tree, 802.1q trunking operation	Design and prototype access layer switched network, configure and verify switch operations
Addressing	Implement IP addressing, DHCP configuration, and NAT operation.	Intro and practice subnets, classless IP addressing and routing, VLSM, subnetting methods, IPv6	Reinforce VLSM, Introduce route summarization and aggregation	Review and expand IPv6; IP addressing design and configuration
ACLs			Verify, implement and troubleshoot ACLs in the Enterprise	Review ACLs and use to incorporate security in a branch office network

Step by step growth of knowledge throughout the 4 courses

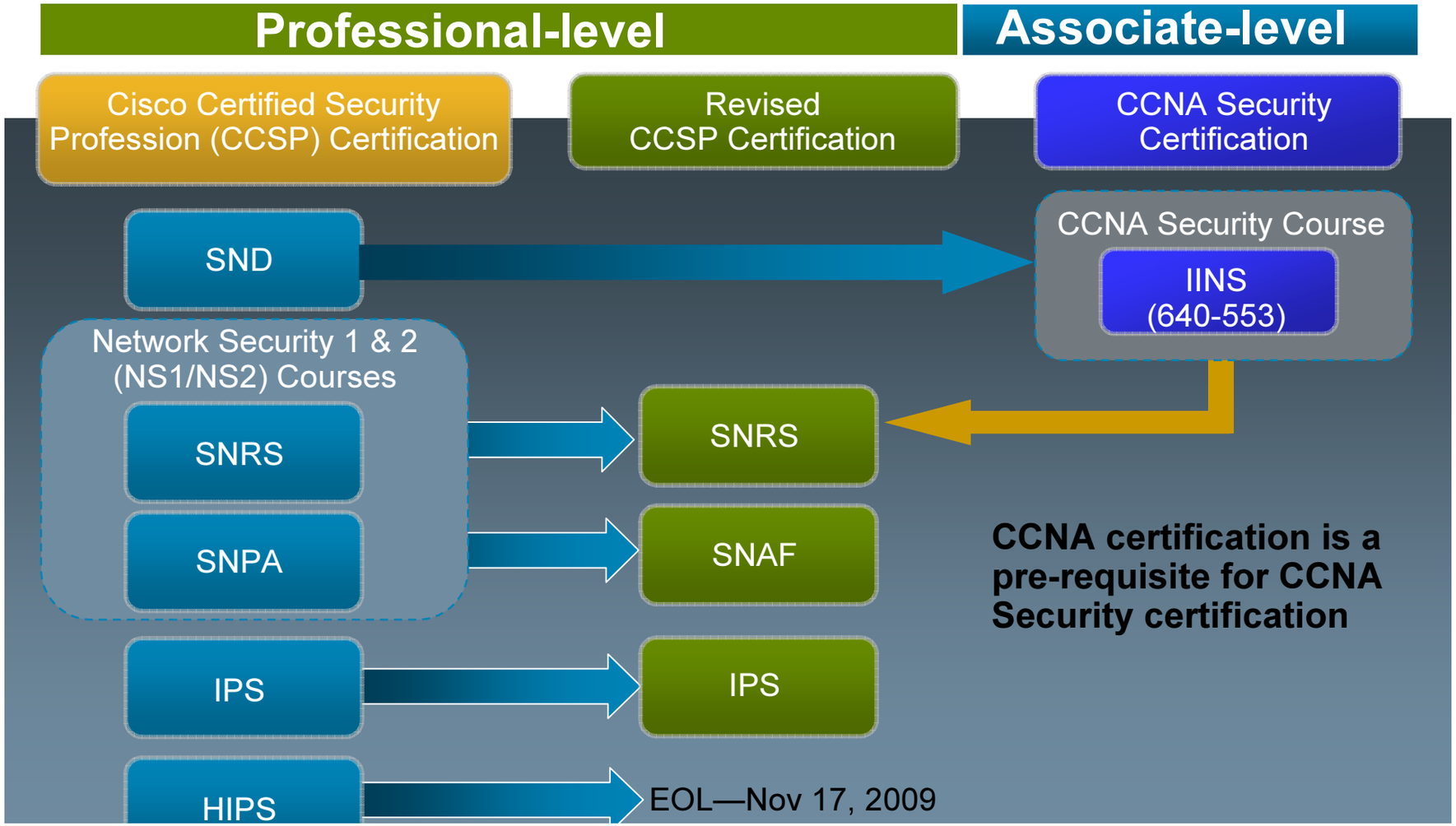
CCNA Security



CCNA Security Overview

- A new course that provides students with in-depth network security education and a comprehensive understanding of network security concepts
- Provides students with hands-on knowledge and skills, emphasizing practical experience, needed for entry-level job roles in network security
- Teaches installation, troubleshooting and monitoring of network devices to maintain integrity, confidentiality and availability of data and devices
- Prepares students for CCNA Security certification (IINS 640-553 exam).
- CCNA Security course IS NOT a replacement for the current Network Security 1 and Network Security 2 (NS1 and NS2) courses

Security Certifications



CCNA Security Target Audience

- Students

  College and University-level students in advanced degree programs or seeking career-oriented, entry-level Security specialist skills

  Career starters, Career enhancers, Career changers

- Academies – Vocational and University Sector

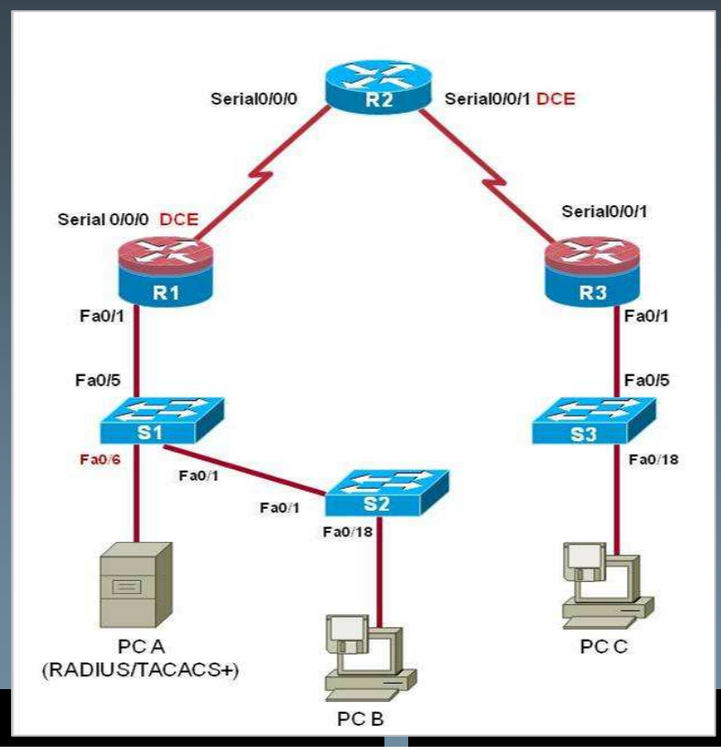
Course Design

- One course (~70-hr) format
- Delivered in the same Graphical User Interface (GUI) as the CCNA Discovery and CCNA Exploration curricula
- Enabled for both in person and Blended Distance Learning (BDL) delivery
- 9 Chapters
- 1 complex hands-on lab per chapter and Packet Tracer activities

  Provided as separate .zip files downloaded from AC; not packaged within the GUI
- 9 end of chapter exams; 1 final exam
- Balanced approach to theory and hands-on experience
- Available in English only, no translated versions are planned

Equipment Requirements

- Goal is to minimize equipment costs
  - Uses CCNA Discovery/Exploration equipment bundle and topology
  - NetLab compatible topology—enabled for remote operation
- Additional investment required for memory upgrade and Advanced IOS images

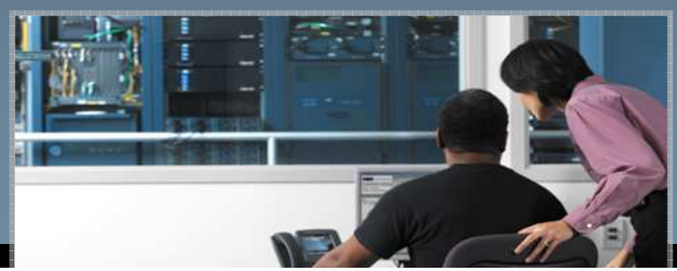


CCNA Security Course Outline

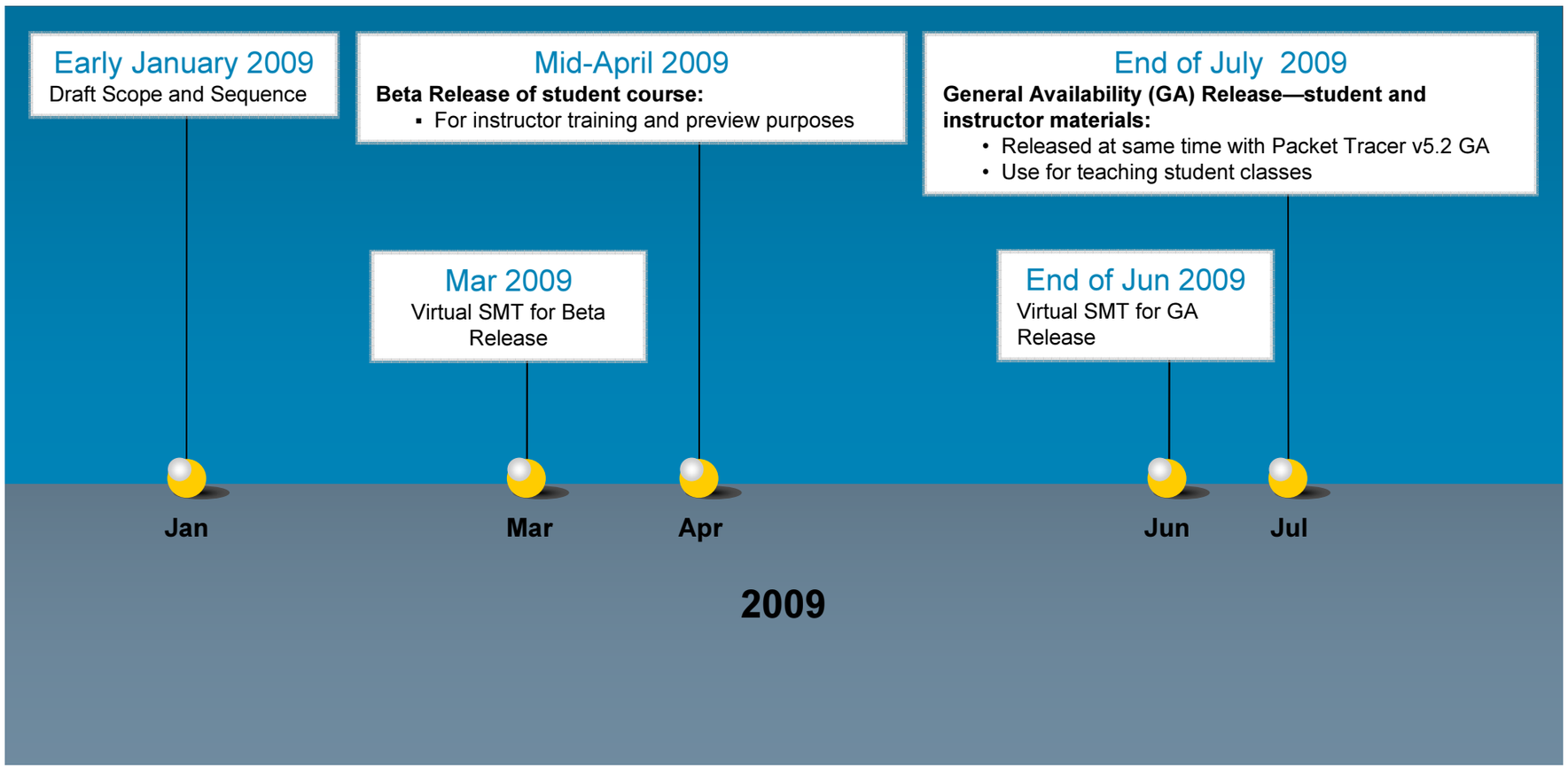
Course Chapter Titles	
Ch. 1	**Modern Network Security Threats** Goal: Explain network threats, mitigation techniques, and the basics of securing a network.
Ch. 2	**Securing Network Devices** Goal: Securing administrative access on Cisco routers.
Ch. 3	**Authentication, Authorization and Accounting**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

Enrollment and Training

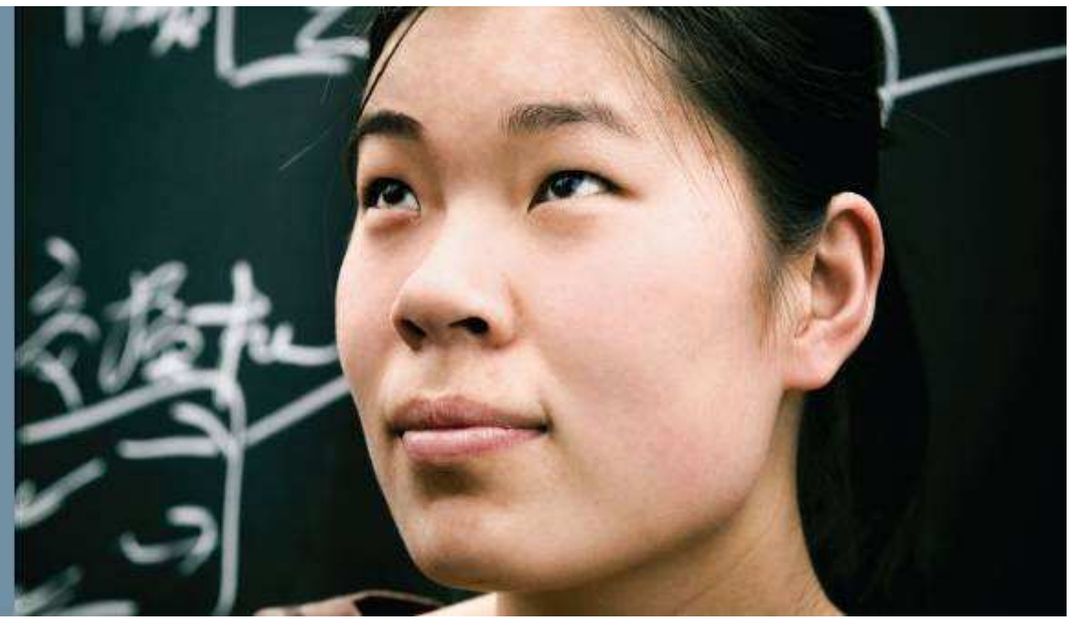
- Student enrollment pre-requisite: CCNA-level knowledge required
- Instructor Training guidelines:
  - CCNA-level knowledge required
  - Required for new CCNA Security instructors; Fast track possible with evidence of CCNA Security or higher certification or industry experience
  - Recommended for existing NS1, NS2 or CCNP: ISCW instructors
  - Existing NS1, NS2 or CCNP: ISCW instructors allowed to teach CCNA Security course
- Instructor Training
  - BDL format with 3-day in-person preferred; Can also be delivered 100% remote
  - BDL Best Practices guide developed to provide guidelines on how to deliver course in a BDL environment
- Training Support – CCNA Security Training Centers established in each region to provide instructor training; CLI will train CCNA Security Training Centers; Details still being defined.



CCNA Security
Release Dates and Availability



Bundles

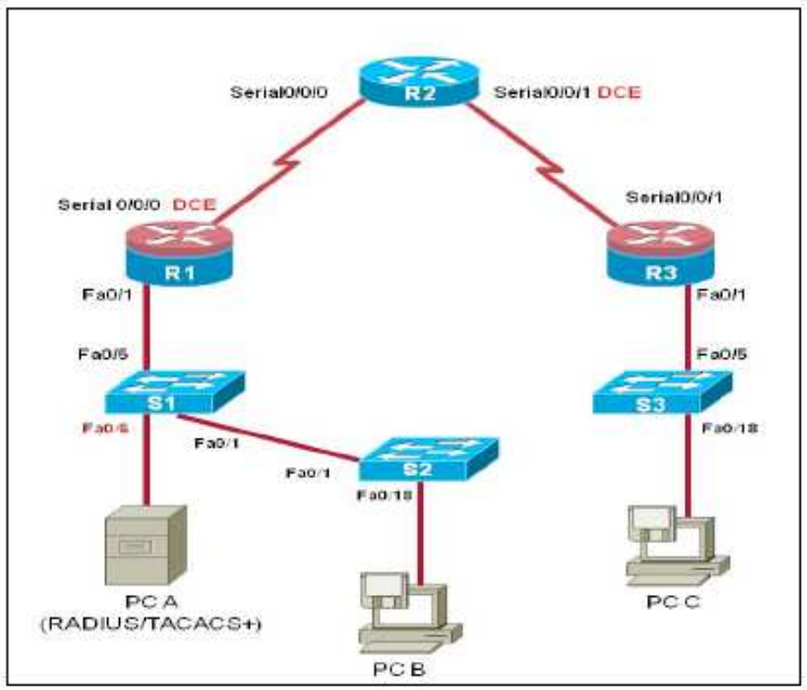


Current EUP-341 Promotion

- EUP-341 promotion renewed
  - 24th January - 25th April, 2009
- Current contents:
  - CCNA
  - CCNP
  - NetLab
  - IP Telephony
- Bundles no longer available:
  - Wireless
  - Network Security 1 & 2
- Remember: 75% discount on all equipment bundles

CCNA Security

- CCNA Security recommended lab (CCNA Security Scope & Sequence):



x1 Cisco 1841 Router - IP Base IOS
x2 Cisco 1841 Router - Adv IP Serv IOS

x3 Cisco Catalyst 2960 Switches

Cables

CCNA Security Bundles

- **CCNA Security Starter Bundle**

  x1 1841 router with **IP Base**; x2 1841 routers with **Adv IP Services**; x3 2960 switches

- **CCNA Security Standard Bundle**

  x1 2801 router with **IP Base**; x2 2801 routers with **Adv IP Services**; x3 2960 switches

- **CCNA Security Premium Bundle**

  x1 2811 router with **IP Base**; x2 2811 routers with **Adv IP Services**; x3 2960 switches

CCNA Security Bundles

- **CCNA Security Memory & IOS Upgrade - CISCO1841 Router**
  - Basic Cisco 1841 comes with IP Base IOS and 32F/128DRAM
  - x2 64 Flash upgrades; x2 64 DRAM upgrades; x2 Adv IP Services IOS upgrades
- **CCNA Security Memory & IOS Upgrade - CISCO2801 Router**
  - Basic Cisco 2801 comes with IP Base IOS and 64F/128DRAM
  - x2 64 Flash upgrades; x2 64 DRAM upgrades; x2 Adv IP Services IOS upgrades
- **CCNA Security IOS Upgrade - CISCO2811 Router**
  - Basic Cisco 2811 comes with IP Base IOS and 64F/256DRAM
  - x2 Adv IP Services IOS upgrades
- Availability: within 3-4 weeks

Stay Informed

Instructor Virtual Roadshow

- *Sept 24* — *Packet Tracer 5.0 - Jas Kalsi*
- *Oct 22* — *Case studies in Discovery 4 - Karen Alderson*
- *Nov 5* — *SE case Study – Network management – Garth O'Mara*
- *Nov 26* — *IPv6 and IPv6 routing - Michael Furminger*
- *Dec 9* — *Future Vision – Security – Georgina Schaefer*
- *Jan 12* — *SE case Study – Real World Security – Keith Dyer*
- *Jan 21* — *Top down approach for the ISO model – Exploration 1 and Discovery 2 - Semyon Ovsyannikov*
- *Feb 11* — *Future Vision – Security 2 – Steinthor Bjarnason*
- *Feb 25* — *Spanning tree in Exploration 3 and Discovery 2 - Gabriel Fuster*
- *Mar 25* — *Security in the CCNA Curriculum - Wadih Zaatar*
- Apr 22 — New tools: wireshark, Cisco network assistant - Semyon Ovsyannikov
- May 20 — Wireless and Wireless security – Michael Furminger
- June 24 — VPN – Gabriel Fuster
- July 22 — Troubleshooting and the analytical approach in the labs – Jas Kalsi

Instructor Site – Housing MultiCast, Webinars, Events Info.

Coming May 2009:

- New Instructor Site with important news, information, training resources for instructors. Will be linked to Academy Connection.
- Instructor Events – Full round up and schedule of ALL instructor events and Instructor Virtual Road Show
- Headlines, News, Articles, Features and **LOCAL NEWS** for YOUR region
- Important links to ALL your sites

You will receive information about how to access your new site by email.

Questions to aidoris@cisco.com

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Mind Wide Open™

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