Cisco Networking Academy Program

New CCNA Curricula

November 2006

Agenda

- Customer Expectations

- Cisco's Evolving Focus

- Product Portfolio

- New CCNA Curricula
  - ❖ Benefits and Features
  - ❖ Equipment
  - ❖ Instructor Training
  - ❖ Migration
  - ❖ Articulation
  - ❖ Translation
  - ❖ Availability

Current CCNA Instructor and Student Feedback

Improve Student Experience

- **Better engage students-align with their interests and capabilities**

- **Optimize balance of theory, practice, and application for targeted audience**

- **Retain students with lower reading and math levels**

Improve Quality

- **Improve accuracy and flow of course content**

- **Ensure content is relevant and up-to-date**

- **Address advanced technologies**

Increase Flexibility

- **Make curricula more efficient to localize**

- **Facilitate curriculum delivery and class administration**

- **Provide high and low bandwidth delivery capabilities**

Rising Expectations
IT Professional Educational Paths

- From one size fits all

    All upper secondary level and higher education institutions

- To improved student experience

Advanced Learning

Student has advanced problem-solving and analytical skills typically associated with students pursuing degrees in engineering, math, or science

Foundational Learning

Student has basic PC usage skills

Evolving our Focus

- "One size fits all" courses no longer appropriate

  - Differences in student goals, educational level and environment dictate a segmented approach

  - The new CCNA curricula teaches the same applied skills to help prepare students for CCNA certification but in a different way

- Student success requires skills tied to the evolving networking job market

  - Gaps in skilled IT workers exist in every region of the world

  - Demand for IT professionals is expected to increase through 2009, especially for those with advanced networking skills
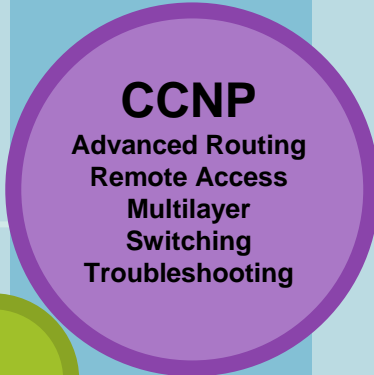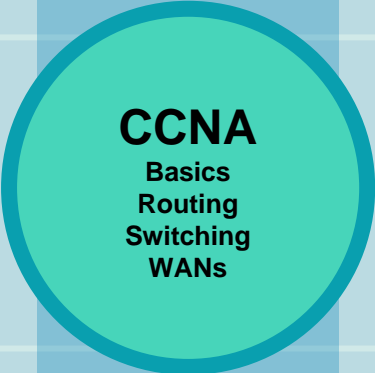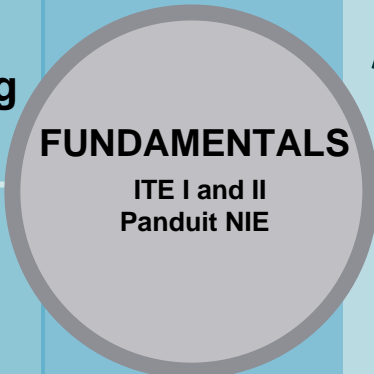
Networking Academy Product Portfolio Today

Enterprise Networking

Small and Medium Business Networking

Network Installer

Basic IT Support

System Admin

FUNDAMENTALS
ITE I and II
Panduit NIE

CCNA
Basics
Routing
Switching
WANs

Wireless

CCNP
Advanced Routing
Remote Access
Multilayer Switching
Troubleshooting

Security

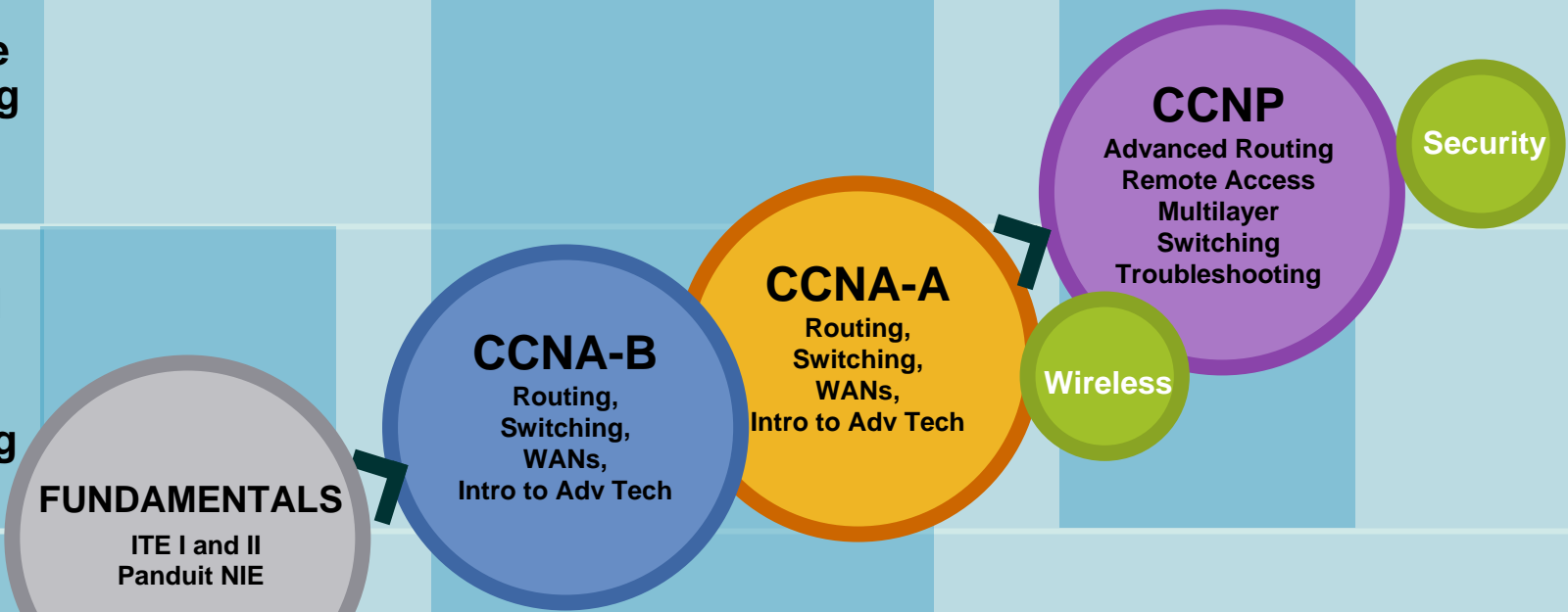**Student Networking Knowledge and Skills**

Networking Academy Product Portfolio Future

CAREERS

Enterprise Networking

Small and Medium Business Networking

Network Installer

Basic IT Support

System Admin

FUNDAMENTALS
ITE I and II
Panduit NIE

CCNA-B
Routing, Switching, WANs, Intro to Adv Tech

CCNA-A
Routing, Switching, WANs, Intro to Adv Tech

Wireless

CCNP
Advanced Routing
Remote Access
Multilayer Switching
Troubleshooting

Security

Student Networking Knowledge and Skills

Two New CCNA Curricula
Both Prepare Students for CCNA Certification and Professional Careers

CCNA-A*
Advanced Learning

- **Part of an integrated technology curriculum or continuing education program at postsecondary institutions; typically at career and technical schools, colleges, and universities**

- **Student has advanced problem solving and analytical skills typically associated with students pursuing degrees in engineering, math, or science**

CCNA-B*
Foundational Learning

- **Independent curriculum or possibly integrated into broader course of study at upper-secondary institutions, career and technical schools, and colleges**

- **Student has basic PC usage skills**

* These are not official names. Formal names will be communicated upon new curricula availability.

New CCNA Curricula Benefits

- **Motivates and excites students by matching curriculum with teaching methodologies, student interests, and goals**

- **Features:**
  - **Imbedded "e-doing" (learning by doing)**
  - **Enhanced instructional features**
  - **Introduction to advanced technologies and converged networks**
  - **Updated course GUI**
  - **More efficient translation**

CCNA-A

- **Allows students to learn skills in a more rigorous, comprehensive, theoretical, and practical way; reflective of educational practices at the college and university levels**

- **Offers complex and challenging hands-on labs to engage the advanced learner**

- **Designed for students who want to pursue additional technology or engineering educations while preparing for IT careers**

CCNA-B

- **Provides a hands-on approach to learning networking**

- **Uses step-by-step labs and teaches general theory needed to build networks**

- **Engages students and allows for quick application of learned concepts**

- **Designed to encourage students to consider additional education in IT and help them prepare for entry-level IT careers**

Feature Comparison

	CCNA v3.1	CCNA-A	CCNA-B
Expected Student Capabilities	Basic PC usage skills	Advanced problem-solving and analytical skills typically associated with pursuing a degree in engineering, math, or science	Basic PC usage skills
Content	Four courses – structured by protocols and technology	Four courses – structured by protocols and technologies within various topologies PLUS: • e-Doing • Introduction to advanced technologies • Extra theory and more challenging labs	Four courses – structured by practical network environments PLUS: • e-Doing • Introduction to advanced technologies • Helps prepare students for entry-level IT careers by teaching applied skills as early as the end of the second course of the four course series
Business Rules	Required minimum of six months to complete all four courses	• Goal is to offer more relaxed business rules to reduce teaching time • Courses structured to increase flexibility and efficiency in course sequence	Required minimum of one year to complete all four courses
Time to Learn	70 hours per course		

CCNA-A
Changes Compared to Current CCNA

CCNA v3.1	CCNA-A	Course Changes	
		% content change	
CCNA 1 — Networking Basics	Networking Fundamentals	53%	• Intro to Advanced Technologies and Converged Networks • Top-Down Approach to Networking
CCNA 2 — Routers and Routing Basics	Routing Protocols and Concepts	9%	• Can be taught before, with, or after Switching • Removed IGRP, TCP and ICMP • Added VLSM, OSPF, EIGRP • More challenging labs
CCNA 3 — Switching Basics and Intermediate Routing	LAN Switching and Wireless	22%	• Can be taught before, with, or after Routing Protocols and Concepts • Added Rapid Spanning Tree protocol • Added wireless concepts • More challenging labs
CCNA 4 — WAN Technologies	WAN Technologies	23%	• De-emphasize ISDN • Added new WAN concepts • Added ACLs, VPN concepts

CCNA-B
Changes Compared to Current CCNA

	CCNA v3.1	Curriculum Framework	CCNA-B	Course Content
CCNA 1	Networking Basics	No 1 to 1 mapping	Networking for Home and Small Businesses	• Introduction to networking • Basic cabling for SOHO • LAN addressing and network services • Basic wireless and security • Troubleshooting – plan/build home network
CCNA 2	Routers and Routing Basics	New courses	Networking at a Small-to-Medium Business or an ISP	• Intro to OSI model/TCP model • SMB routing and switching • WAN technology • IP addressing • Network devices and cabling • Security / disaster recovery
CCNA 3	Switching Basics and Intermediate Routing	New order, flow, and format	Introducing Routing and Switching in the Enterprise	• Enterprise overview • LAN/WAN performance • IP addressing – VLSM and subnetting • Advanced switching and routing • EIGRP, OSPF, VLANs, VTP, Frame Relay • LAN/WAN/VLAN troubleshooting
CCNA 4	WAN Technologies	Practical application, theory, soft skills and career exploration	Designing and Supporting Computer Networks	• Design concepts and equipment selection • IP addressing on a LAN/WAN • Network design • Cisco device configuration upgrade • Stronger theoretical notion of converged networks

Equipment

- The new curricula is still under development and we are unable to provide detailed equipment lists at this time

- Listed on the next two slides are estimated NTE (Not to Exceed) costs to consider for budget planning purposes

- Networking Academy discount is not reflected in U.S. list price
- Typical discount is 50% but this may vary by country
- Current CCNA bundle url: http://cisco.netacad.net/cnams/content/library/curriculum/Ccna.jsp

Equipment
Current Academy Migrating to New Curricula

	CCNA-A	CCNA-B
Incremental costs if Academy <u>has a current CCNA bundle:</u>	None	• Cost for 2 LinkSys wireless routers or equivalent SOHO wireless routers • Incremental costs is estimated at US List price NTE $500 per pod before Academy discount
Number of pods of real equipment required on premises:	At least one	
One pod optimally serves:	No more than four students simultaneously	No more than eight students simultaneously
Standard pod includes:	• 3 IOS routers • 2 IOS switches • Serial cables	• 2 Linksys wireless routers or equivalent SOHO wireless routers • 3 IOS routers • 2 IOS switches • Serial cables
In addition to the standard pod a typical lab configuration includes:	• 3 desktop PCs • Ethernet cables • Cable-making and -testing equipment Note: Same additional components as current CCNA v3.1	
Optional equipment:	Wireless devices and Integrated Services Routers (ISRs); As an interim solution, the embedded e-Doing in the new curricula can help address exercises requiring wireless devices	Integrated Services Routers (ISRs)

Equipment
New Academy Adopting New Curricula

	CCNA-A	CCNA-B
Estimated U.S. list price:	NTE US$10,000 per pod before Academy discount	
Number of pods of real equipment required on premises:	At least one	
One pod optimally serves:	No more than four students simultaneously	No more than eight students simultaneously
Standard pod will include:	• 3 Integrated Services Routers (ISRs) • 2 IOS switches • Serial cables	• 2 Linksys wireless routers or equivalent SOHO wireless routers • 3 Integrated Services Routers (ISRs) • Serial cables
In addition to the standard pod a typical lab configuration will require:	• 3 desktop PCs • Ethernet cables • Cable-making and -testing equipment The estimated price per pod does not include the price of these additional components.	

Instructor Training

- Training environments include in-person, remote, blended and independent learning

  Independent or self-paced distance learning will only be available for current instructors who choose to pursue retraining upon initial rollout of new curricula

- Wide variety of training materials

  Instructor guides, PowerPoint presentations, case studies, lab materials, and activities

Instructor Training

	CCNA-A	CCNA-B
Current Instructor	▪ Optional but strongly recommended ▪ Our goal is to offer a self-paced distance learning solution for current CCNA instructors at no extra cost*	
	(min. 4-8 hours per course)	(min. 8-10 hours per course)
New Instructor	▪ In person training required. ~ 60-80 hours per course; similar to current CCNA v3.1 ▪ Costs generally range from US$50 to US$150 per day depending on location	

NOTE:
- **Training Academies may offer additional training opportunities to instructors. There may be fees associated with these learning events, as determined by the training Academies. Please refer to your training Academy for exact costs.**

CCNA-A and CCNA-B Migration

- For institutions midway through delivering CCNA v3.1, the institution should continue with the CCNA v3.1 curriculum

- Countries with translated versions of CCNA v3.1 courses may choose to wait until a translated version of the new CCNA curricula is available, or adopt the English version

- There are no immediate plans to retire the CCNA v3.1 courses. This curriculum will continue to be made available to existing and new Academies as long as it aligns with customer needs and certification requirements

CCNA-A and CCNA-B Articulation

- While articulation agreements are generally developed at the institution level based on existing programs and pathways, Cisco offers the following information about the course content:

  CCNA-B courses 1 and 2 (+ additional VLSM practice activity included in CCNA-B course 2) should enable students to earn CCNA-A course 1 equivalent credit

  Students who complete CCNA-A (courses 1 – 4) or CCNA-B (courses 1 – 4) will be prepared to start the CCNP curriculum
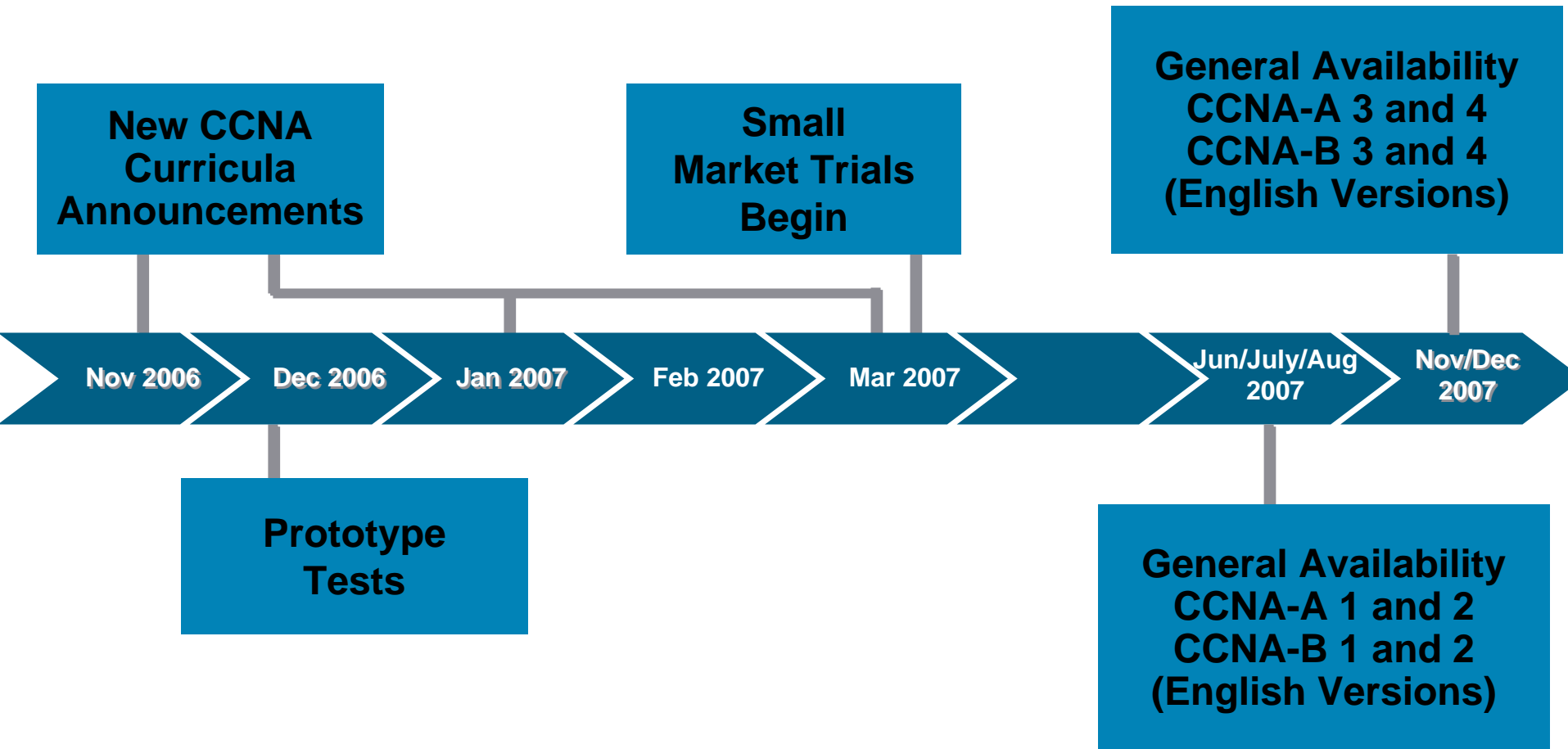
  Additionally, an institution may choose to grant credit for CCNA-A curriculum for students who complete the CCNA-B curriculum

CCNA-A and CCNA-B Translation

- Goals

    Reduced cost and time-to-market
    Increased quality and scalability

- Strategy

    Design course GUIs for translation

    Create processes to implement Cisco-sponsored and locally-sponsored translations

    Execute trials to optimize process and measures

- Timing of CCNA-A and CCNA-B Translations

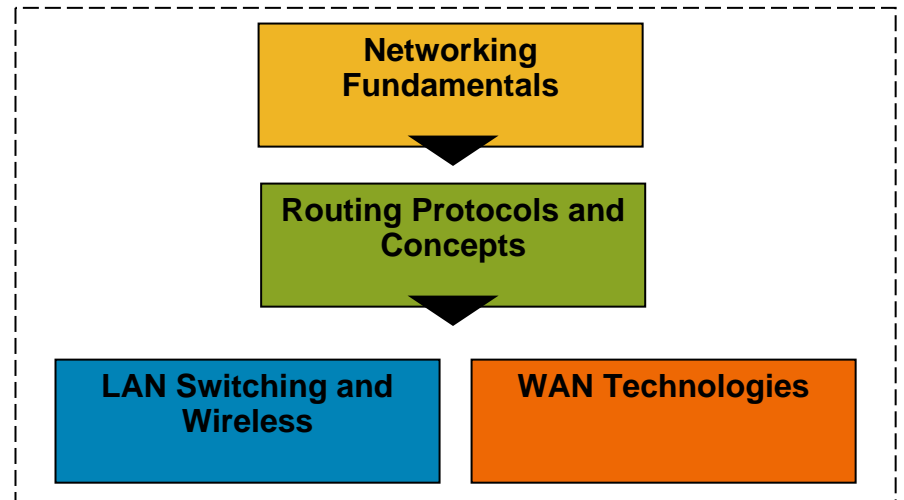   Cisco-sponsored translations – including roadmap for selected languages – to be announced in the June–August 2007 timeframe
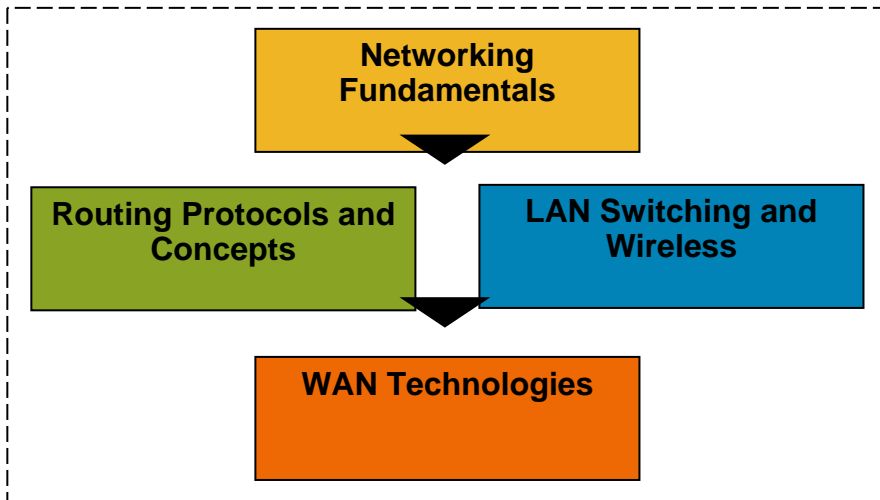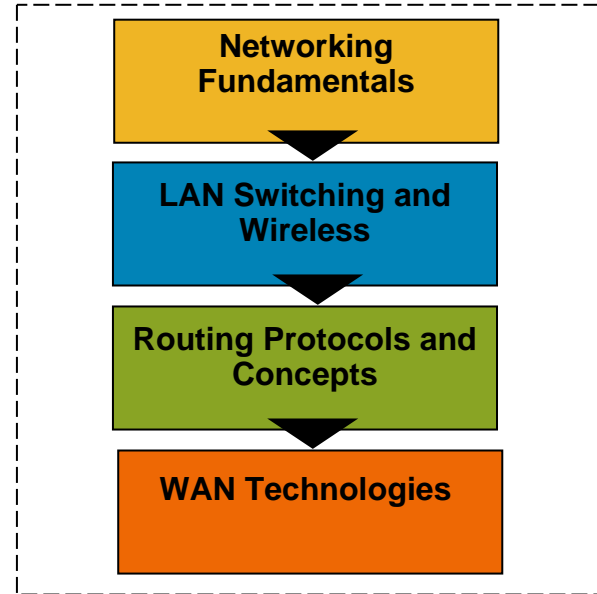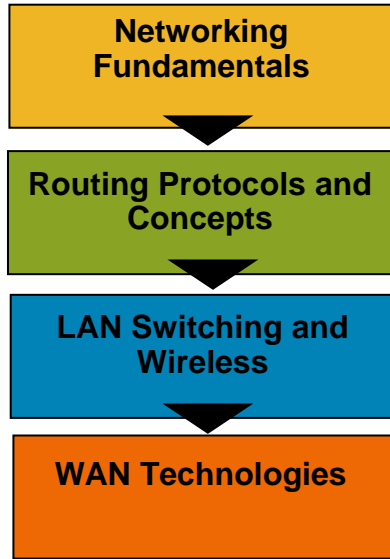
New CCNA Curricula Availability

New CCNA Curricula Announcements

Prototype Tests

Small Market Trials Begin

General Availability CCNA-A 3 and 4 CCNA-B 3 and 4 (English Versions)

General Availability CCNA-A 1 and 2 CCNA-B 1 and 2 (English Versions)

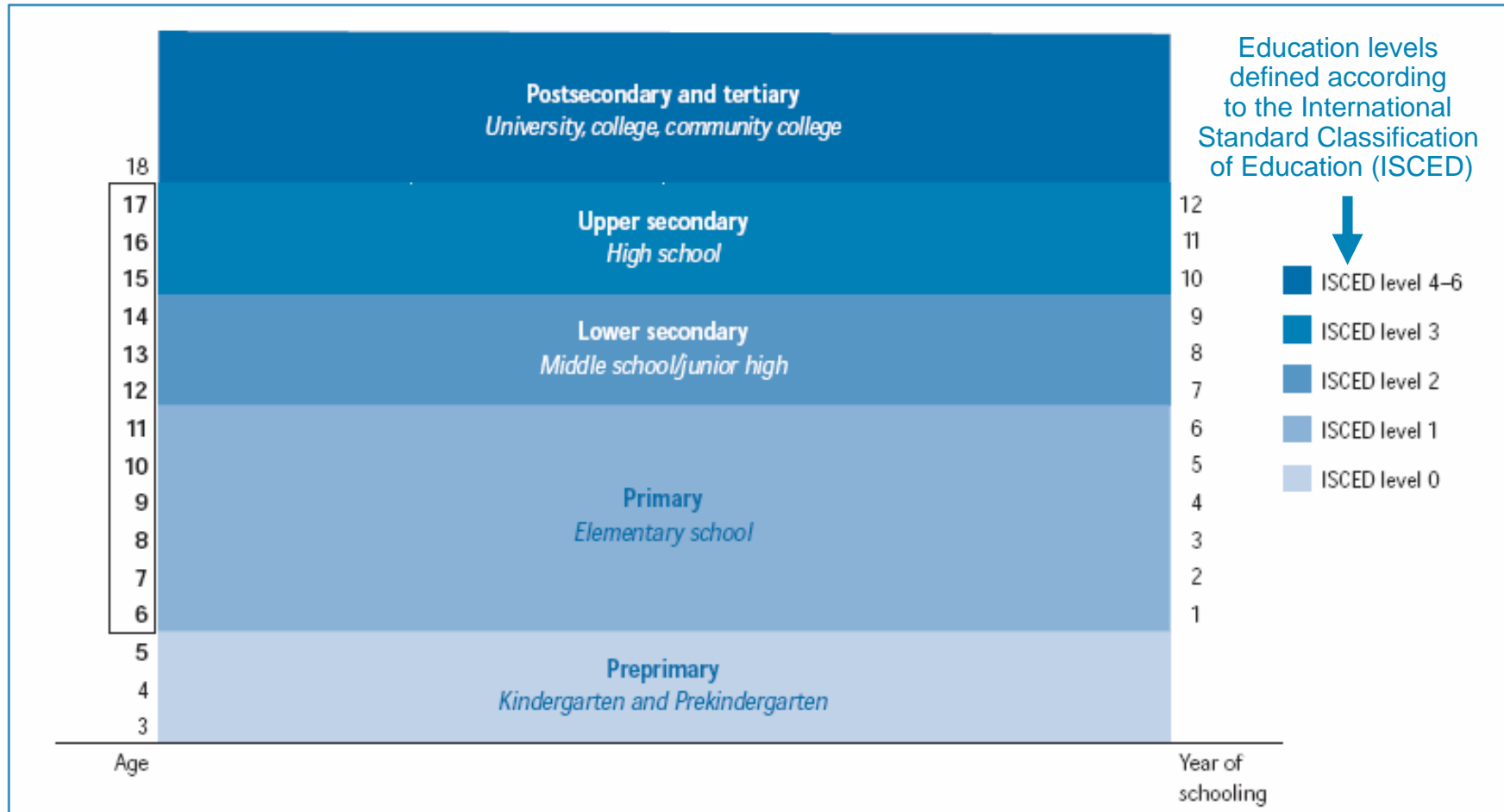Nov 2006 → Dec 2006 → Jan 2007 → Feb 2007 → Mar 2007 → Jun/July/Aug 2007 → Nov/Dec 2007

CCNA-A: Flexibility in Course Sequence

THE EDUCATION SYSTEM IN THE UNITED STATES

Figure A-9. Levels of education in the United States, by age and year of schooling: 2004

NOTE: Ages represent the typical age at the beginning of the school year. Numbers in bold print indicate ages of universal enrollment. Box encloses the age at which compulsory enrollment begins through the age at which compulsory enrollment ends. In some countries, enrollment rates may fall below universal before the ending age of compulsory education. No meaning should be inferred from width of subdivisions. Theoretical duration of first university degree is 4 years in the United States.

Source: National Center for Education Statistics, Comparative Indicators of Education in the United States and Other G8 Countries: 2004, published Feb. 2005