



## Cisco Networking Academy: Arizona Profile

### Educating the Architects of the Networked Economy

Now in its second decade, Cisco® Networking Academy® has provided more than two million students worldwide with the information technology (IT) and networking skills necessary to compete in the 21st century global economy.

To prepare the Networking Academy for the decade ahead, Cisco has launched innovative new curricula including Cisco Certified Network Associate (CCNA®) Discovery and CCNA Exploration, as well as a new version of IT Essentials called PC Hardware and Software, and updates to the Cisco Certified Network Professional (CCNP®) curriculum. These new courses have been specifically designed to help students be more successful, whether they plan to be IT professionals or are simply seeking a deeper understanding of IT.

Our new courses align to industry certifications, including the recently launched Cisco Certified Entry-Level Technician (CCENT™). In addition to serving as an entry-level certification for employers, CCENT helps meet the new Carl D. Perkins Career and Technical Improvement Act funding requirements.

The new Networking Academy curricula provide seamless educational pathways between secondary and post-secondary institutions and are aligned to national and state education standards for math, science, and language arts. These courses can also help students prepare to pursue degrees related to science, technology, engineering, and math (STEM). In the United States, academies are located in high schools, technical schools, colleges, universities, and community-based organizations with more than 125,000 students enrolled at more than 2300 academies.<sup>†</sup>

As IT continues to be a high-demand job field in the United States, many educational institutions are incorporating IT into their offerings:

- Secondary schools are building pathways for students around the IT career cluster.
- Post-secondary institutions are integrating IT curriculum into degree programs ranging from computer science to networking to business.
- Community colleges and technical schools are providing existing workers with the opportunity to upgrade their skills, pursue additional education, and expand their expertise in technical fields.

Through its proven model of public-private partnerships with education, government, and business, Cisco Networking Academy is addressing the growing need for a pipeline of skilled IT professionals at a time when corporate technology leaders, public sector IT officials, and technology-service-oriented industries are concerned about the lack of a trained technical workforce to fill existing jobs.

<sup>†</sup> Source: AME/MRE FULL Package\_10 31 07 Quarterly Metrics\_v2 Date: November 28, 2007

An academy has a class currently in session or has taught a class, with at least 3 students, within the last 12 months.

A student is enrolled in a class or has taken a class within the last 12 months.

### Learn More

Table 1 lists data about academies in Arizona. Table 2 lists information about Networking Academy curricula in Arizona, and Table 3 shows information by student education level.

For additional information about Cisco Networking Academy, visit <http://www.cisco.com/go/netacad>

**Table 1.** Cisco Networking Academy in Arizona

<b>Networking Academy students</b>	3848
<b>Distinct cumulative academy students (having successfully completed a course)</b>	13,043
<b>Academy instructors</b>	99
<b>Total estimated cumulative contribution value to Arizona academies*</b>	\$ 6,277,958

Source: AME/MRE FULL Package\_10 31 07 Quarterly Metrics\_v2 Date: November 28, 2007

Cumulative students are distinct; therefore, each student is only counted once.

\*This estimate includes donations and discounts made to educational institutions implementing Cisco Networking Academy within Arizona.

\*Sources: AME/MRE reports 1211\_190710.31.07 Date: November 30, 2007

**Table 2.** Networking Academy Curricula in Arizona

<b>Curriculum</b>	<b>CCNA®</b>	<b>CCNP®</b>	<b>IT Essentials</b>	<b>Security</b>	<b>Wireless</b>
<b>Number of academies by curriculum</b>	44	4	30	0	3

The above curricula represent the core Networking Academy curricula. Panduit Network Infrastructure Essentials, Java, and UNIX are also available.

Academies often teach multiple curricula and may be counted more than once in this table.

Source: AME/MRE rpt 3087 Date: December 5, 2007

**Table 3.** Arizona Academies and Students by Education Level

<b>Education Level</b>	<b>Number of Arizona Academy Students</b>	<b>Percentage of Arizona Students</b>	<b>Number of Arizona Networking Academies</b>	<b>Percentage of Arizona Academies*</b>
<b>Secondary schools</b>	1809	47%	36	68%
<b>Community colleges</b>	1732	45%	14	26%
<b>Universities</b>	308	8%	3	6%
<b>Other</b>	0	0%	0	0%
<b>Total by education level</b>	3848	100%	53	100%

Source: AME/MRE FULL Package\_10 31 07 Quarterly Metrics\_v2 Date: November 28, 2007

Academies represented in "Other" category include the following: community-based organizations, middle schools, the military, nontraditional educational settings, and post-graduate institutions



## Cisco Networking Academy: Workforce Development

If the United States is to remain competitive in this global economy, leading experts believe we must have a trained and educated workforce. And yet the number of U.S. students pursuing careers in science, technology, engineering and math—critical areas for educating the workforce of tomorrow—continues to decline.

Cisco Networking Academy addresses this gap by providing students with the skills needed to succeed in the wide range of careers available today and tomorrow. In addition to integrating IT skills, the Networking Academy also embeds math, science, and language arts skills in the curricula.

### IT Occupational Data

Table 4 lists information about IT-related occupations in the United States, and Table 5 lists this information for Arizona.

**Table 4.** Selected IT-Related Occupations in the United States

Occupation	Employment		Employment Change		Average Annual Openings	Occupational Employment as of May 2006*
	2004	2014	Numeric	Percent		
Computer Support Specialists	518,370	637,560	119,190	22	18,300	514,460
Computer Systems Analysts	486,550	639,500	152,960	31	20,800	446,460
Network and Computer Systems Administrators	278,380	385,250	106,870	38	13,770	289,520
Network Systems and Data Communications Analysts	231,270	357,460	126,190	54	15,340	203,710
Computer and Information Systems Managers	280,290	352,920	72,620	25	12,350	251,210

U.S. Department of Labor, Bureau of Labor Statistics, <http://www.bls.gov/oco/oco20024.htm>, based on data availability as of December 2007

\*U.S. Department of Labor, Bureau of Labor Statistics, May 2006 State Occupational Employment and Wage Estimates (US), [http://stat.bls.gov/oes/current/oes\\_nat.htm](http://stat.bls.gov/oes/current/oes_nat.htm)

**Table 5.** Selected IT-Related Occupations in Arizona

Occupation	Employment		Employment Change		Average Annual Openings	Occupational Employment as of May 2006^
	2004	2014	Numeric	Percent		
Computer Support Specialists	11,670	15,120	3450	29	490	11,600
Computer Systems Analysts	6770	8930	2160	31	290	6470
Network and Computer Systems Administrators	3920	5600	1680	42	210	4000
Network Systems and Data Communications Analysts	3740	5760	2020	54	250	2920
Computer and Information Systems Managers	4400	5780	1380	31	220	3960

U.S. Department of Labor, Bureau of Labor Statistics, <http://www.bls.gov/oco/oco20024.htm>, based on data availability as of December 2007

^ U.S. Department of Labor, Bureau of Labor Statistics, May 2006 State Occupational Employment and Wage Estimates (by state), <http://stat.bls.gov/oes/current/oesazrcst.htm>





## Arizona Student and Graduate Profile

Randy Kessler began his career path in a local grocery store at the age of 15. More than 20 years later, his interest in computers led to his enrollment in the Cisco® Networking Academy® at Gateway Community College in Phoenix, Arizona. Thanks to the skills he learned and the Cisco Career Connection job board, Randy has found his ideal job in computer networking. “It was the exposure and experience that I obtained from the Networking Academy that enabled me to successfully interview and obtain employment in the networking field. I was able to discuss networking and give examples from the Networking Academy that put me ahead of the competition in the interviewing process.”

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### **Randy Kessler**

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Randy decided to pursue a bachelor’s degree later in life with the encouragement of his family and friends. He enrolled in DeVry University and joined a peer support group. The group worked on projects together and attended the same classes. For their senior project, Randy’s team approached local businesses to set up remote access for their networks. Afterward, the university’s administrators asked the group to replicate their project for the university using Cisco router configurations that would allow students to work remotely using Cisco equipment.

After graduating from DeVry with a degree in network and communication management, Randy wanted to add certification to his credentials and researched various certification programs. He decided that the Networking Academy offered the best preparation for certification by providing students with hands-on lab experience using the same equipment that is used in the workplace. Based on this information, Randy and two of his peers enrolled in Networking Academy courses. “I found the hands-on experience was the key to the program.”

With his degree and Cisco Certified Network Associate (CCNA®) certification in hand, Randy took advantage of the Cisco Career Connection job board and now works with a networking company, installing and maintaining networks across the state of Arizona. “I am really enjoying the job,” he says, “and it’s exactly what I envisioned myself doing. The amount of experience I’ve obtained in a couple months as a team member of a Cisco Gold Certified Partner is invaluable. I am thankful for all the tools and information available through the Cisco site, in addition to the support available to engineers in the field.”

For more information on the Networking Academy at Gateway Community College <http://www.gatewaycc.edu/>





## Active Cisco Networking Academies in Arizona

### U.S. Congressional District Database

Data for this report was gathered using the U.S. Congressional District Database. This tool was developed to communicate with congressional representatives about Cisco Networking Academy implementation in their home districts. The database maps active academies by congressional district or by all districts within a state, providing academy name, city, state, and congressional district. The listing by state is updated annually.

Table 6 lists information about academies in Arizona congressional districts. Custom reports by congressional districts may be run upon request by contacting Melody Buchanan at [Melody.Buchanan@ciscolearning.org](mailto:Melody.Buchanan@ciscolearning.org).

**Table 6.** Networking Academies in Arizona Congressional Districts

Number of Arizona Congressional Districts	Number of Arizona Congressional Districts <u>with</u> Networking Academies	Number of Arizona Congressional Districts <u>without</u> Networking Academies	% Arizona Congressional District Penetration
8	8	0	100%

Academies listed here have taught a class, with at least one student, within the last six months

Source: MRE/Academy Connection, U.S. Congressional District Database Date: January 3, 2008

### Active Arizona Cisco Networking Academies by Congressional District

\* Indicates Cisco Networking Academy Training Center

Academies listed here have taught a class, with at least one student, within the last six months

Source: MRE/Academy Connection, U.S. Congressional District Database Date: December 31, 2007

#### Congressional District 1

- \*Estrella Mountain Community College (Avondale)
- Chinle Cisco Networking Academy (Chinle)
- \*Coconino Community College (Flagstaff)
- Coconino High School (Flagstaff)
- Dishchi Bikoh High School (Cibecue)
- Gila County Community College Pueblo Campus (Globe)
- Holbrook High School (Holbrook)
- Morenci Unified School District #18 (Morenci)
- Page High School (Page)
- Round Valley School District #10 (Springerville)
- Snowflake High School (Snowflake)
- Valley High School Academy (Sanders)
- Winslow High School (Winslow)

- \*Yavapai College (Prescott)

#### Congressional District 2

- Centennial H.S. (Peoria)
- Glendale Community College (Glendale)

#### Congressional District 3

- DeVry University, Phoenix (ACC) (Phoenix)
- \*DeVry University, Phoenix Regional (ACC) (Phoenix)
- Greenway High School (Phoenix)
- Washington High School (Phoenix)

#### Congressional District 4

- Gateway Community College (Phoenix)
- South Mountain Community College (Phoenix)

**Congressional District 5**

- Tempe Union High School District #213 - Desert Vis (Phoenix)
- Tempe Union High School District #213-McClintock H (Tempe)
- Tempe Union High School District #213-Mountain Poi (Phoenix)
- Tempe Union High School District #213-Tempe High S (Tempe)
- Westwood High School (MPS) (Mesa)

**Congressional District 6**

- Chandler-Gilbert Community College - Local (Chandler)
- \*Mesa Community College (Mesa)
- Mesa High School (MPS) (Mesa)
- Testing Academy Entitlements (Chandler)

- Red Mountain High School (MPS) (Mesa)

**Congressional District 7**

- TUSD's Pueblo High School (Tucson)
- Nogales High School (Nogales)
- Pima Community College West Campus (Tucson)
- TUSD's Tucson High Magnet School (Tucson)

**Congressional District 8**

- Cochise College Fort Huachuca Center (Fort Huachuca)
- Mountain View High School (Marana USD) (Marana)
- TUSD's Palo Verde High School (Tucson)
- TUSD's Rincon High School (Tucson)
- TUSD's University High School (Tucson)
- TUSD's Sahuaro High School (Tucson)



## Cisco Networking Academy: Promoting IT Careers

Technology jobs will not only continue to grow, but the role of information technology (IT) workers will continue to evolve since today nearly every company in every industry relies on IT. The skills learned through Cisco Networking Academy lay a critical foundation for almost any profession, even non-IT careers. Networking Academy graduates not only build careers, but also help build businesses, communities, and countries.

If the United States is to remain competitive and continue to innovate in a global economy, we must foster student interest in pursuing technology- and engineering-related careers. A critical strategy in building a technical workforce for the 21st century is the development of seamless programs like Networking Academy that build pathways between secondary and post-secondary institutions and lead to professional career development.

Through the Cisco Promoting IT Careers initiatives, students are introduced to potential careers in IT and networking and given valuable information about pathways to advanced education, certification, and careers.

Visit the Promoting IT Careers Website, <http://www.cisco.com/go/promoteitcareers>, which is dedicated to the following:

- Increasing awareness and interest in opportunities in IT and networking
- Creating interest in IT and networking as a profession
- Helping students establish career goals
- Providing tools and resources to support success as students pursue IT careers
- Creating opportunities for students and graduates to transition from classroom to careers

### Five Ways to Promote IT Careers

The following events and activities engage students at all levels of experience. Valuable tools and resources for each event are available through the Promoting IT Careers Website.

#### 1. Host Your Own All Academy Day

**All Academy Day** is a competition that gives students the chance to show off the skills they have learned in the Networking Academy and to explore career pathways by interacting with IT professionals. Teams of students participate in a series of hands-on events selected from the following options: cable making, component identification, computer building, home networking, quiz bowl, router configuration, TAC/professionalism, and virtual computers. For more information, visit: <http://www.cisco.com/go/allacademyday>

#### 2. Help Students See Your Shadow

Job shadowing can be an important first step in pointing students toward IT careers. You can put on a full **Job Shadow Day** or offer an event as simple as a guest speaker in your classroom. Hearing first-hand about the world of work from IT professionals helps students relate their classroom experiences to the workplace and can inspire students to pursue careers in math, science, and technology. For more information, visit: <http://www.cisco.com/go/jobshadow>

### 3. Introduce Young Students to the World of IT

**Packetville** is a public e-learning portal filled with interactive and educational resources for introducing students aged 8 to 14 to the world of IT. Lesson plans, which are aligned with the standards of the International Society for Technology in Education, include community service projects and career exploration. For more information, visit: <http://www.cisco.com/go/packetville>

### 4. Connect Students with Employers

The Networking Academy is connecting Networking Academy alumni with employers through the Career Connection job board. For more information, visit: <http://cc.netacad.net/home.do>

### 5. Explore the Landscape of IT

This series of **Virtual Field Trips** helps Networking Academy students and instructors explore and understand the landscape of IT and prepare for networking careers, all without leaving the classroom. Designed to engage students early on in their Networking Academy experience, the videos cover a range of topics that encourage students to continue their education and begin early to build their career path. A companion module that accompanies each video reinforces the content from the video. For more information, visit: <http://www.cisco.com/go/virtualfieldtrip>

## Learn More about IT and Networking Careers

- Certification Magazine, “Hot Jobs & Skills for 2007”  
[http://www.certmag.com/articles/templates/CM\\_gen\\_Article\\_template.asp?articleid=2521&zoneid=1](http://www.certmag.com/articles/templates/CM_gen_Article_template.asp?articleid=2521&zoneid=1)
- CNNMoney.com, “Skilled Worker Shortage Hurts U.S.”  
[http://money.cnn.com/2007/01/04/news/economy/jobs\\_outlook/index.htm](http://money.cnn.com/2007/01/04/news/economy/jobs_outlook/index.htm)
- Job Data Resources
  - U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics  
<http://data.bls.gov/oes/search.jsp>
  - State-Level Job Projections  
<http://www.projectionscentral.com>
- John Chambers on the role of technology in education  
[http://www.forbes.com/opinions/2008/01/23/solutions-education-chambers-oped-cx\\_sli\\_0123chambers.html](http://www.forbes.com/opinions/2008/01/23/solutions-education-chambers-oped-cx_sli_0123chambers.html)
- “The Quiet Crisis,” Shirley Ann Jackson, Ph.D.; President, Rensselaer Polytechnic Institute  
<http://www.rpi.edu/homepage/quietcrisis/>



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