



## Cisco Networking Academy: Pennsylvania 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 Pennsylvania. Table 2 lists information about Networking Academy curricula in Pennsylvania, 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 Pennsylvania

<b>Networking Academy students</b>	3382
<b>Distinct cumulative academy students (having successfully completed a course)</b>	12,569
<b>Academy instructors</b>	124
<b>Total estimated cumulative contribution value to Pennsylvania academies*</b>	\$9,286,823

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 Pennsylvania.

\*Sources: AME/MRE reports 1209\_190910.31.07 Date: November 30, 2007

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

<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>	71	2	46	4	2

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.** Pennsylvania Academies and Students by Education Level

<b>Education Level</b>	<b>Number of Pennsylvania Academy Students</b>	<b>Percentage of Pennsylvania Students</b>	<b>Number of Pennsylvania Networking Academies</b>	<b>Percentage of Pennsylvania Academies*</b>
<b>Secondary schools</b>	2469	73%	67	72%
<b>Community colleges</b>	778	23%	19	20%
<b>Universities</b>	135	4%	5	5%
<b>Other</b>	34	1%	2	2%
<b>Total by education level</b>	3382	100%	93	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 Pennsylvania.

**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 Pennsylvania

Occupation	Employment		Employment Change		Average Annual Openings	Occupational Employment as of May 2006 <sup>^</sup>
	2004	2014	Numeric	Percent		
Computer Support Specialists	20,500	23,800	3350	16	600	21,400
Computer Systems Analysts	18,750	22,750	4000	21	600	17,170
Network and Computer Systems Administrators	10,700	13,500	2800	26	400	14,910
Network Systems and Data Communications Analysts	5650	8250	2600	46	350	5630
Computer and Information Systems Managers	13,250	15,400	2150	16	450	9460

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

<sup>^</sup>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/oesrcst.htm>





## Pennsylvania Student and Graduate Profile

Kasetta “Kasey” Coleman grew up in Philadelphia’s inner city where teen pregnancy, drugs, and minimum wage jobs were the norm. Kasey, however, wanted a different life. By the age of 19, she knew she wanted a college education and a career that would provide her with a good paying job and an opportunity to make a contribution to the community in which she was raised.

Growing up with her parents and three siblings, Kasey’s dream was to become a cardiologist so that she could heal and help people. Kasey attended Philadelphia High School for Girls, considered to be the best public high school in Philadelphia, where she knew she would be prepared for colleges and universities of higher education. She excelled at Girls’ High School, taking Advanced Placement courses in nearly every subject, playing the viola, studying dance, and volunteering for a number of community programs. All the while, her sights were set on medical school. In the spring of her senior year, however, Kasey’s options were broadened with the opening of Cisco® Networking Academy® at Girls’ High School.

---

**In the fall of 2000, Kasey enrolled as a freshman at the Massachusetts Institute of Technology. “I wouldn’t have considered going to an engineering school were it not for the Networking Academy,” says Kasey.**

---

One of the first 20 students to enroll in the Networking Academy at Girls High School, Kasey completed two courses of the Cisco Certified Network Associate (CCNA®) curriculum. Networking Academy classes required a commitment above and beyond standard course work with classes held from 7 to 8:15 a.m., before the start of the school day. But it was well worth the effort for Kasey.

“The Networking Academy gave me a new and different learning experience,” says Kasey. “First, it encouraged independent thinking. The focus is on learning rather than cramming and regurgitating information. Second, I was actually learning how the Internet works through a refreshing approach to teaching that combined videos, Internet access, and Cisco resources.”

Kasey’s involvement with the Networking Academy culminated with her participation on the Cisco team that configured and installed Internet access for the Republican National Convention (RCN) in the summer of 2000.

“My experiences with the Networking Academy and the RCN opened my eyes to how engineering and computer technology can impact people’s lives. I thought the world of networking was cool and that in the long run it would be helpful to my academic career,” recalls Kasey.

In the fall of 2000, Kasey enrolled as a freshman at the Massachusetts Institute of Technology (MIT). “I wouldn’t have considered going to an engineering school were it not for the Networking Academy,” says Kasey. She notes, “Men have dominated engineering and science for so long that stereotypes have evolved that exclude women. So, women lack support when it comes to a career in engineering and technology. Women need good role models in this field and the Networking Academy helped me understand that, as a woman, I could succeed in an engineering environment.”



While Kasey had considered majoring in computer science, during her sophomore year she declared a major in chemical engineering with a minor in biotechnology and a concentration in Japanese. Her interests lie at the intersection of computer science and nano- and biotechnology in areas such as bioinformatics, silicon biology, and drug delivery.

In addition to academic study, Kasey performed research at Langer Labs where she worked on bioengineering projects that involved the development of fluorescent markers for cancer detection and microchip drug delivery. Kasey was also the president of a dance company, treasurer of the Black Students' Union, and a member of the Society of Women Engineers, National Society of Black Engineers, Black Woman's Alliance, and the Red Cross Disaster Action Team.

---

**“Men have dominated engineering and science for so long that stereotypes have evolved that exclude women. So, women lack support when it comes to a career in engineering and technology. Women need good role models in this field and the Networking Academy helped me understand that, as a woman, I could succeed in an engineering environment.”**

---

**Kasey Coleman**

---

As part of MIT's Women's Initiative, Kasey visited high schools throughout the country meeting with high school students, especially girls, to encourage them to enter science and engineering fields. As Kasey continues to be a role model for other young women, she credits her own role model with her success and achievement. “My mother is my role model. Responsible, dedicated, committed, a great friend, and a great parent.”

After graduating from MIT, Kasey worked at Hitachi Research Lab in Japan. She recently returned to Philadelphia to attend Temple Law School with a tuition scholarship and other merit and need-based awards. Kasey is scheduled to graduate in May 2008.

During the summer of 2007 Kasey was an intern at the Philadelphia District Attorney's office. She also worked at Temple Legal Aid in the spring and Legal Advocacy for Patients in the fall. Kasey has many interests which include public interest law as well as a possible career in politics or as a judge. She has also completed research in intellectual property law and is interested in working at an intellectual property or patent law firm after graduating from Temple Law School.

For more information on the Networking Academy at Girls High School, visit:

<http://webgui.phila.k12.pa.us/schools/g/girlshigh>



## Active Cisco Networking Academies in Pennsylvania

### 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 Pennsylvania 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 Pennsylvania Congressional Districts

Number of Pennsylvania Congressional Districts	Number of Pennsylvania Congressional Districts <u>with</u> Networking Academies	Number of Pennsylvania Congressional Districts <u>without</u> Networking Academies	% Pennsylvania Congressional District Penetration
19	19	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 Pennsylvania 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

- Apprentice Training for the Electrical Industry, L (Philadelphia)
- South Side High School (Hookstown)

#### Congressional District 2

- Community College of Philadelphia, WFDC (Philadelphia)
- Berean Institute Academy (Philadelphia)
- Simon Gratz High School (Philadelphia)
- \*The School District of Philadelphia (Philadelphia)
- West Philadelphia Youth Opportunity Grant (Philadelphia)

#### Congressional District 3

- West Shamokin Academy (Rural Valley)

#### Congressional District 4

- A.W. Beattie AVTS (Allison Park)
- Community College of Beaver County (Monaca)
- Freedom High Local Academy (Freedom)
- North Allegheny Local Academy (Pittsburgh)
- Quaker Valley (Sewickley)
- Shaler Area High School (Pittsburgh)

#### Congressional District 5

- Career and Technical Center (CTC) (State College)
- Central Pennsylvania Institute of Science & Techno (Pleasant Gap)
- Seneca Highlands (Port Allegany)

#### Congressional District 6

- Brandywine Heights School District (Topton)

- Center For Technical Studies of Montgomery County (Plymouth Meeting)
- Daniel Boone Area School District (Birdsboro)
- Great Valley School District (Malvern)
- \*Montgomery Community College/West Campus (Pottstown)
- Reading Muhlenberg Area Vocational-Technical School (Reading)
- SCTE Networking Academy (Exton)
- Wilson School District (West Lawn)

#### **Congressional District 7**

- Pennsylvania Institute of Technology (Media)

#### **Congressional District 8**

- Bucks County Community College (Newtown)
- Bucks County Housing Group, Inc. (Newtown)
- Mast Community Charter School (Philadelphia)

#### **Congressional District 9**

- Big Spring School District (Newville)
- Greater Altoona Career & Technology Center (Altoona)
- Scotland School For Veterans Children (Scotland)
- Shippensburg School District (Shippensburg)
- Somerset CTC Academy (Somerset)

#### **Congressional District 10**

- Canton Area School District (Canton)
- Tunkhannock High School (Tunkhannock)
- Pennsylvania College of Technology (Williamsport)

#### **Congressional District 11**

- Wyoming Area Cisco Academy (Exeter)

#### **Congressional District 12**

- Admiral Peary Area Vocational-Technical School (Ebensburg)
- Belle Vernon High School (Belle Vernon)
- California University of Pennsylvania (California)

- Eastern Westmoreland Career and Technology Center (Latrobe)
- Elderton Local Academy (Elderton)
- Ford City Local Academy (Ford City)
- Greene County Vo-Tech School (Waynesburg)
- Hiram G Andrews Center (Johnstown)
- Greater Johnstown Career and Technology Center (Johnstown)
- Kittanning Local Academy (Kittanning)
- Monessen High School (Monessen)
- Pennsylvania Highlands Community College (Johnstown)
- Washington School District (Washington)

#### **Congressional District 13**

- Abington Sr HS (Abington)
- Eastern Center For Arts and Technology (Willow Grove)
- MCCC Central Local (Blue Bell)
- \*Montgomery Community College/Central Campus (Blue Bell)
- North Montco Technical Career Center (Lansdale)

#### **Congressional District 14**

- Brashear High School (Pittsburgh)
- Carrick High School (Pittsburgh)
- Peabody High School (Pittsburgh)
- Pittsburg Job Corps Cisco Networking Academy (Pittsburgh)
- \*Pittsburgh Public Schools (Pittsburgh)
- Steel Valley Local Academy (Munhall)
- Wilkinsburg Local Academy (Wilkinsburg)

#### **Congressional District 15**

- Career Institute of Technology (Easton)
- Easton Area School District (Easton)
- Freedom High School (Bethlehem)
- Lehigh Carbon Community College (Schnecksville)

- Liberty High School (Bethlehem)
- \*Northampton Community College (Bethlehem)
- Souderton Area School District (Souderton)
- Upper Perkiomen School District (Pennsburg)

#### **Congressional District 16**

- Consolidated School of Business Lancaster (ACC) (Lancaster)
- Lancaster County Career and Technology Center (Mount Joy)
- Penn Manor High School (Millersville)

#### **Congressional District 17**

- Berks Career Technology Center (Oley)
- \*Berks County Intermediate Unit - Regional (Reading)
- Fleetwood Area High School (Fleetwood)
- Halifax Area School District (Halifax)
- Milton Hershey Cisco School (Hershey)
- Muhlenberg School District (Laureldale)
- North Schuylkill School District (Ashland)
- Susquehanna Township School District (Harrisburg)
- Pottsville Area School District (Pottsville)
- Schuylkill Intermediate Unit 29 (Frackville)

#### **Congressional District 18**

- Baldwin-Whitehall Local (Pittsburgh)
- Forbes Road Career and Tech CTR (Monroeville)
- Mt. Lebanon Local Academy (Pittsburgh)
- Steel Center Area Vocational Technical School (Clairton)
- Parkway West AVTS (Oakdale)
- Western Area Career and Technology (Canonsburg)
- \*Westmoreland County Community College (Youngwood)

#### **Congressional District 19**

- Central York School District (York)
- \*Carlisle Area School District (Carlisle)
- Cedar Cliff High School (Camp Hill)
- Consolidated School of Business York (ACC) (York)
- Mechanicsburg Area School District (Mechanicsburg)
- Northern York County School District (Dillsburg)
- Red Lion Area Senior High School (Red Lion)
- Upper Adams School District (Biglerville)
- York County School of Technology (York)





## 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/>



**Americas Headquarters**  
Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
[www.cisco.com](http://www.cisco.com)  
Tel: 408 526-4000  
800 553-NETS (6387)  
Fax: 408 527-0883

**Asia Pacific Headquarters**  
Cisco Systems (USA) Pte. Ltd.  
168 Robinson Road  
#28-01 Capital Tower  
Singapore 068912  
[www.cisco.com](http://www.cisco.com)  
Tel: +65 6317 7777  
Fax: +65 6317 7799

**Europe Headquarters**  
Cisco Systems International BV  
Haarlerbergpark  
Haarlerbergweg 13-19  
1101 CH Amsterdam  
The Netherlands  
[www-europe.cisco.com](http://www-europe.cisco.com)  
Tel: +31 0 800 020 0791  
Fax: +31 0 20 357 1100

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at [www.cisco.com/go/offices](http://www.cisco.com/go/offices).

CCVP, the Cisco logo, and Welcome to the Human Network are trademarks of Cisco Systems, Inc.; Changing the Way We Work, Live, Play, and Learn is a service mark of Cisco Systems, Inc.; and Access Registrar, Aironet, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, CCSP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Enterprise/Solver, EtherChannel, EtherFast, EtherSwitch, Fast Step, Follow Me Browsing, FormShare, GigaDrive, HomeLink, Internet Quotient, IOS, iPhone, IP/TV, iQ Expertise, the iQ logo, iQ Net Readiness Scorecard, iQuick Study, LightStream, Linksys, MeetingPlace, MGX, Networkers, Networking Academy, Network Registrar, PIX, ProConnect, ScriptShare, SMARTnet, StackWise, The Fastest Way to Increase Your Internet Quotient, and TransPath are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries. Mind Wide Open is a trademark of Cisco Networking Academy.

All other trademarks mentioned in this document or Website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0711R)