



Cisco Networking Academy: Maryland 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.[†]

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.

[†] 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 Maryland. Table 2 lists information about Networking Academy curricula in Maryland, 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 Maryland

Networking Academy students	3206
Distinct cumulative academy students (having successfully completed a course)	6727
Academy instructors	89
Total estimated cumulative contribution value to Maryland academies*	\$3,750,095

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 Maryland.

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

Table 2. Networking Academy Curricula in Maryland

Curriculum	CCNA®	CCNP®	IT Essentials	Security	Wireless
Number of academies by curriculum	47	3	34	1	0

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. Maryland Academies and Students by Education Level

Education Level	Number of Maryland Academy Students	Percentage of Maryland Students	Number of Maryland Networking Academies	Percentage of Maryland Academies*
Secondary schools	2340	73%	44	79%
Community colleges	834	26%	11	20%
Universities	32	1%	1	2%
Other	0	0%	0	0%
Total by education level	3206	100%	56	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 Maryland.

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

Table 5. Selected IT-Related Occupations in Maryland

Occupation	Employment		Employment Change		Average Annual Openings	Occupational Employment as of May 2006^
	2004	2014	Numeric	Percent		
Computer Support Specialists	12,400	14,900	2500	20	400	12,610
Computer Systems Analysts	21,630	27,330	5700	26	820	11,880
Network and Computer Systems Administrators	7560	10,510	2950	39	380	8530
Network Systems and Data Communications Analysts	7690	11,550	3870	50	480	7060
Computer and Information Systems Managers	7430	9200	1770	23	310	6550

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/oesrcst.htm>



Maryland Student and Graduate Profile

At age 23, Suzanne Jones has accomplished more than some adults twice her age. When talking about her accomplishments, Suzanne credits her experiences in the Cisco® Networking Academy® as well as her drive to achieve the very best in a career in technology.

In 2001, as a senior in high school, Suzanne had already earned her Cisco Certified Network Associate (CCNA®) certification and was enrolled in the Cisco Certified Network Professional (CCNP®) coursework at Charles County Career and Technology Center (now North Point High School). During that time she also completed an internship at Comcast, a leading cable and Internet provider. After graduating high school, Suzanne joined the United States Air Force Reserves while working in the information technology (IT) field as a network engineer. “The Networking Academy helped me get a head start in my career and I’ve applied the skills I learned on a regular basis,” says Suzanne.

Suzanne’s passion for technology began at an early age. Her father, an electrician, first introduced her to the field of technology and would give her various materials and challenge her to use her imagination to make something functional. In high school she continued to pursue her interest in technology by enrolling in the academy at Charles County Career and Technology Center, which was the first of only seven high schools in the country to offer both the CCNA and CCNP curriculum. Suzanne became the first female junior at the school to pass the CCNA course and earn her certification.

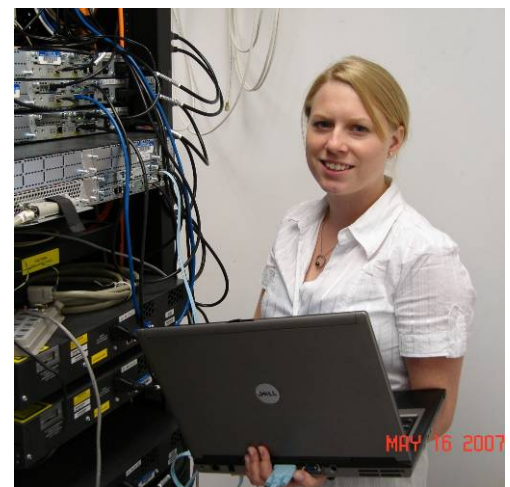
“Suzie is a sharp and capable engineer. She brought a depth of training and experience to Stanley Associates that enabled her to make an immediate impact on our network, and provided a strong foundation for her to develop skills with advanced technologies.”

Lee Howard, Director Network Engineering, Stanley Associates

Suzanne shared about her Networking Academy experience: “My instructors always pushed us to excel in the class. I liked how the course material was written and found that the labs allowed us to put into practice what we had learned. Most importantly, the projects we completed were also a great resource for me to look back on when I started my career.”

Today, Suzanne continues to fulfill her career and education plans. She is a network engineer at Stanley Associates, a fast growing, mid-sized government contractor. Her day-to-day duties include supporting basic network operations and troubleshooting, including adding and updating Cisco voice-over-IP phones, Unity, and VPN accounts.

“Suzie is a sharp and capable engineer. She brought a depth of training and experience to Stanley Associates that enabled her to make an immediate impact on our network and provided a strong foundation for her to develop skills with advanced technologies,” commented Lee Howard, Director of Network Engineering at Stanley Associates. “Because of her focus and dedication, she is an outstanding contributor to the network engineering team.”



Suzanne is currently working to develop an internship program at her company to provide work-based learning opportunities to other Networking Academy students. “I feel I gained so much from my experience that I want to give back,” she says.

Suzanne is currently working to develop an internship program at her company to provide work-based learning opportunities to other Networking Academy students. “I feel I gained so much from my experience that I want to give back,” she says.

Suzanne intends to continue breaking new ground, this time in a higher education setting. When Suzanne earns her degree in network and communications management from DeVry University she will be the first in her family to have completed college. In addition, Suzanne plans to complete her CCNP studies and earn her CCNP certification.

For additional information on the Networking Academy at North Point High School, visit:

<http://www.ccboe.com/teachers/gstergar/>



Active Cisco Networking Academies in Maryland

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 actively teaching 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 Maryland congressional districts. Custom reports by congressional districts may be run upon request by contacting Melody Buchanan at Melody.Buchanan@ciscolearning.org.

Table 6. Networking Academies in Maryland Congressional Districts

Number of Maryland Congressional Districts	Number of Maryland Congressional Districts <u>with</u> Networking Academies	Number of Maryland Congressional Districts <u>without</u> Networking Academies	% Maryland 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 Maryland 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

- *Anne Arundel Community College (Arnold)

Congressional District 2

- BCPS Loch Raven High CNA (Baltimore)
- BCPS Chesapeake High SCA (Baltimore)
- *BCPS District office CNA (Lutherville Timonium)
- BCPS Dulaney High CNA (Timonium)
- BCPS Eastern Technical CNA (Essex)
- BCPS Franklin High CNA (Reisterstown)
- BCPS Patapsco High SCA (Baltimore)
- BCPS Randallstown High CNA (Randallstown)
- BCPS Sollers Point Tech CNA (Baltimore)
- 311th Theater Signal Command (Fort Meade)
- HCPS Joppatowne High CNA (Joppa)

Congressional District 3

- BCPS New Town High SCA (Owings Mills)
- Baltimore Polytechnic Institute (Baltimore)
- BCPS Parkville High SCA (Baltimore)
- BCPS Towson High CNA (Towson)
- *Center of Applied Technology North (Annapolis)
- Digital Harbor HS (Baltimore)
- North Western High School (Baltimore)
- Villa Julie College (Stevenson)

Congressional District 4

- Bishop McNamara High School (Forestville)
- Crossland High School (Temple Hills)
- Dr. Henry A. Wise, Jr. High School (Upper Marlboro)
- Forestville Military Academy (Forestville)

- Suitland high School (Forestville)
- *Prince George's Community College (Largo)

Congressional District 5

- Center of Applied Technology South (Edgewater)
- College of Southern Maryland (La Plata)
- Laurel High School (Laurel)
- North Point High School For Science, Technology An (Waldorf)
- St. Mary's County Technical Center (Leonardtown)

Congressional District 6

- Carroll County Career and Technology (Westminster)
- Allegany County CTE (Cresaptown)
- Damascus High School (Damascus)
- Frederick County Career and Technology Center (Frederick)
- Garrett College (Mc Henry)
- Hagerstown Community College (Hagerstown)
- Washington County Technical High School (Hagerstown)

Congressional District 7

- Baltimore City Community College (Baltimore)
- BCPS Milford Mill Academy CNA (Baltimore)
- BCPS Woodlawn High SCA (Baltimore)
- BCPS Western Tech CNA (Baltimore)
- Carver Vocational-Technical High (Baltimore)
- Community College of Baltimore County At Catonsvil (Baltimore)
- Edmondson West Side HS (Baltimore)
- Mergenthaler Voca-Tech (Baltimore)
- *Howard Community College (Columbia)

Congressional District 8

- MCPS Gaithersburg High SCA (Gaithersburg)
- MCPS - BCC (Bethesda)
- Montgomery Blair High School (Silver Spring)
- Montgomery College (Rockville)
- *Montgomery County Public Schools (Rockville)
- Quince Orchard High School (North Potomac)
- Wheaton High School (Silver Spring)
- Springbrook High School (Silver Spring)
- Thomas S. Wootton High School (Rockville)



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
- CNNMoney.com, “Skilled Worker Shortage Hurts U.S.”
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
- “The Quiet Crisis,” Shirley Ann Jackson, Ph.D.; President, Rensselaer Polytechnic Institute
<http://www.rpi.edu/homepage/quietcrisis/>



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