



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

Networking Academy students	2821
Distinct cumulative academy students (having successfully completed a course)	11,325
Academy instructors	75
Total estimated cumulative contribution value to Michigan academies*	\$6,141,421

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 Michigan.

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

Table 2. Networking Academy Curricula in Michigan

Curriculum	CCNA®	CCNP®	IT Essentials	Security	Wireless
Number of academies by curriculum	49	5	13	2	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. Michigan Academies and Students by Education Level

Education Level	Number of Michigan Academy Students	Percentage of Michigan Students	Number of Michigan Networking Academies	Percentage of Michigan Academies*
Secondary schools	1411	50%	32	62%
Community colleges	790	28%	7	13%
Universities	564	20%	10	19%
Other	56	2%	3	6%
Total by education level	2821	100%	52	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 Michigan.

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 Michigan

Occupation	Employment		Employment Change		Average Annual Openings	Occupational Employment as of May 2006^
	2004	2014	Numeric	Percent		
Computer Support Specialists	14,200	16,390	2200	15	390	13,860
Computer Systems Analysts	16,360	19,810	3450	21	530	17,510
Network and Computer Systems Administrators	6910	9000	2090	30	290	7410
Network Systems and Data Communications Analysts	5380	7730	2350	43	300	5890
Computer and Information Systems Managers	7850	9290	1440	18	290	6880

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>

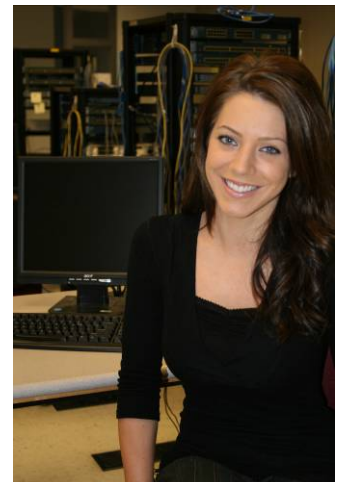


Michigan Student and Graduate Profile

Kelly Ghesling never imagined that her career in networking would be launched by a casual conversation in the Cisco section of a book store. Nor did she imagine that conversation would eventually lead to her first professional job as a network engineer. As she was preparing for the Cisco Certified Network Associate (CCNA®) certification test and browsing the bookshelves for additional Cisco resources another customer commented to her, "Funny, you never really see women interested in networking." Kelly smiled and told him she was preparing for her CCNA exam, and that yes, women could configure routers, too.

A few weeks later, the night before her CCNA certification test, she was back at the book store focused on her subnetting preparation, when the same man approached her and said "I own a streaming media company here locally, and my Internet service provider is looking for a network engineer. I mentioned you to them, and they asked me to pass along their information." Two weeks after passing the CCNA certification exam, Kelly interviewed for the position and was offered the job on the spot! In her two years there, Kelly progressed from network engineer to customer service manager, managing the team of account managers and giving presentations on the network infrastructure to Fortune 500 Companies ... all at the age of 19!

Kelly's journey began in 1999 when there was a lot of buzz about the new Cisco® Networking Academy® at Henry Ford Community College. Kelly wanted to be a part of the technological revolution and, after reading about the Networking Academy in the college brochure, decided to give it a shot. Driven by pure motivation and a true passion for technology, she set her sights on her goal of completing the one-year program and earning her CCNA certification. At first, the curriculum was a bit intimidating, but as one of only two women in the class, she was determined to prove herself. The course was broken down so that each objective was explored, practiced, and then integrated into real-world scenarios. And the "hands-on" nature of the curriculum and labs enabled her to develop skills instead of simply memorizing theory. Kelly was able to configure, practice, and troubleshoot Cisco equipment, and having experience with real-world network infrastructures was a real asset during her job interview.



Two weeks after passing the CCNA certification exam, Kelly interviewed for the position and was offered the job on the spot! In her two years there, Kelly progressed from network engineer to customer service manager, managing the team of account managers and giving presentations on the network infrastructure to Fortune 500 Companies...all at the age of 19!

In addition to the curriculum, Kelly also acknowledges the "dedicated instructors, eager mentors, and supportive co-workers" she's met along the way. "They taught me to find the drive within and to always push for more. Early in my career, my employers took a chance on me, based largely on my participation in the Networking Academy. I find this profession is full of exciting, interesting, and brilliant people, many of whom I now call friends." One of these is her academy instructor, Todd Browning. "He was passionate about the program which made it a better experience for the entire class." Kelly remains in contact with Todd and others at the academy at Henry Ford Community College and serves on the Networking Academy Advisory Board at the community college along with several other former students.

Kelly was asked to speak at Henry Ford Community College's Technology Day while she was still enrolled in the academy. State representatives and members of the community, neighboring educational institutions, and city council attended. Kelly shared her experience and encouraged other colleges and students to participate in the innovative, career-building Networking Academy. Kelly was also invited to speak at the Imagine Your Future Seminar at Henry Ford Community College. This seminar encourages high school girls to explore non-traditional careers for women and Kelly's presence dispelled stereotypes many girls had about IT professionals.

Kelly often tells people that choosing the Networking Academy was the best decision she's made for her professional life. "It has been the foundation of my entire career. The experience of being part of this program has opened so many doors for me ... for a student with an interest in information technology, attending the Networking Academy is the single best choice for building your education and your career. It truly is a lifelong investment."

Kelly's determination, motivation, and focus were important factors in her success in the Networking Academy. She often tells people that choosing the Networking Academy was the best decision she's made for her professional life. "It has been the foundation of my entire career. The experience of being part of this program has opened so many doors for me ... for a student with an interest in information technology, attending the Networking Academy is the single best choice for building your education and your career. It truly is a lifelong investment."

Kelly's success has allowed her to live a life of comfort and stability, including purchasing her first home when she was only 22 years old. In retrospect, what Kelly enjoyed most about the Networking Academy was the sense of accomplishment and achievement upon completing it. "Going through an intense, career-building program and seeing the progress you have made, the knowledge you have gained, and the opportunities that lie ahead give an irreplaceable sense of achievement" says Kelly.

For the past seven years, Kelly has been supporting national networks and designing, planning, and managing large-scale, complex network projects. She is expanding her "technological tool belt" and is now working as a UNIX system administrator and project planner at a leading automotive financing company. Her long-term goal is to become vice president of information technology for a major corporation.

"Working in this industry keeps you on your toes, with technology ever-changing and so many avenues to explore. As I make steps forward in my career, I carry with me the knowledge and the solid foundation that the Networking Academy built to strengthen my networking skills and apply those concepts to become proficient in multiple platforms in the IT arena. I love my job and I am forever grateful for all of the doors this program has opened."

For more information on the academy at Henry Ford Community College, visit: www.hfcc.edu



Active Cisco Networking Academies in Michigan

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 Michigan 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 Michigan Congressional Districts

Number of Michigan Congressional Districts	Number of Michigan Congressional Districts <u>with</u> Networking Academies	Number of Michigan Congressional Districts <u>without</u> Networking Academies	% Michigan Congressional District Penetration
15	14	1	93%

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 Michigan 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

- Inland Lakes Schools (Indian River)

Congressional District 2

- Baker College of Muskegon (Muskegon)
- Mona Shores High School (Norton Shores)
- Newaygo County Intermediate School District (Fremont)

Congressional District 3

- *Davenport University-Western Region - Grand Rapids (Grand Rapids)
- East Kentwood High School (Kentwood)

Congressional District 4

- *Davenport University-Midland (Midland)
- Ferris State University (Big Rapids)
- Midland County ESA (Midland)

- Northwestern Michigan College (Traverse City)

Congressional District 5

- Bay-Arenac ISD Career Center (Bay City)
- Saginaw Career Complex (Saginaw)

Congressional District 6

- Buchanan Community Schools (Buchanan)
- Davenport University - Western Region - Kalamazoo (Kalamazoo)
- Van Buren Technology Center (Lawrence)
- Lake Michigan College (Benton Harbor)
- *New Buffalo Area Schools (New Buffalo)

Congressional District 7

- Calhoun Area Technology Center (Battle Creek)
- Kellogg Community College (Battle Creek)

Congressional District 8

- Pinckney Community Schools (Pinckney)

Congressional District 9

- Baker College of Auburn Hills (Auburn Hills)
- Bloomfield Hills Model High School (West Bloomfield)
- Oakland Community College (Farmington Hills)
- Royal Oak Cisco Academy (Royal Oak)
- Troy Athens High School (Troy)
- West Bloomfield High School (West Bloomfield)

Congressional District 10

- Baker College of Port Huron (Port Huron)
- Huron Area Technical Center (Bad Axe)
- Lapeer ISD Education and Technology Center (Attica)
- Sanilac I.S.D. (Peck)
- Utica Community Schools (Sterling Heights)

Congressional District 11

- Livonia Career/Technical Center (Livonia)
- South Lyon High School (South Lyon)
- Walled Lake Central High School (Commerce Township)
- Walled Lake Northern High School (Commerce Township)

Congressional District 12

- Detroit Electrical Joint Apprenticeship and Training (Warren)
- *Davenport University - Eastern Warren (Warren)
- Macomb Community College (Warren)
- South Lake High School (Saint Clair Shores)

Congressional District 14

- A.P. Randolph Career Technical Center (Detroit)
- Baker College - Allen Park (Allen Park)
- Breithaupt Career and Technical Center (Detroit)
- Davenport University - Eastern Region-Dearborn Cam (Dearborn)
- Focus: Hope Information Technologies Center (Detroit)
- Grosse Ile High School (Grosse Ile)
- Hamtramck High School (Hamtramck)
- Southgate Community School District (Southgate)

Congressional District 15

- Annapolis High School (Dearborn Heights)
- *Henry Ford Community College - Regional (Dearborn)
- Lincoln High School (Ypsilanti)
- Washtenaw Community College (Ann Arbor)
- Michael Berry Career Center (Dearborn Heights)



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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