



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

<b>Networking Academy students</b>	297
<b>Distinct cumulative academy students (having successfully completed a course)</b>	1032
<b>Academy instructors</b>	13
<b>Total estimated cumulative contribution value to Vermont academies*</b>	\$810,470

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 Vermont.

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

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

<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>	6	0	7	0	1

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.** Vermont Academies and Students by Education Level

<b>Education Level</b>	<b>Number of Vermont Academy Students</b>	<b>Percentage of Vermont Students</b>	<b>Number of Vermont Networking Academies</b>	<b>Percentage of Vermont Academies*</b>
<b>Secondary schools</b>	187	63%	6	72%
<b>Community colleges</b>	110	37%	3	28%
<b>Universities</b>	0	0%	0	0%
<b>Other</b>	0	0%	0	0%
<b>Total by education level</b>	297	100%	9	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 Vermont.

**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 Vermont

Occupation	Employment		Employment Change		Average Annual Openings	Occupational Employment as of May 2006^
	2004	2014	Numeric	Percent		
Computer Support Specialists	1,560	1,790	230	14	40	1,480
Computer Systems Analysts	780	940	160	20	30	560
Network and Computer Systems Administrators	670	900	230	34	30	690
Network Systems and Data Communications Analysts	320	460	140	45	20	240
Computer and Information Systems Managers	350	400	50	14	10	310

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>





## Vermont Student and Graduate Profile

About halfway through her computer systems program at Community College of Vermont (CCV) at Burlington, Melissa Choiniere changed majors. Even though she wasn't exactly sure what it entailed, Melissa switched to the network administration program in 2003 because she felt it was more rigorous and had more interesting classes, including the Cisco® Networking Academy® CCNA curriculum. She "absolutely loved the program" and by 2005 when Melissa graduated with her associate of applied science degree in network administration she knew she had made the right decision. The Networking Academy provided her with solid foundational knowledge she continues to use in her current studies at Champlain College where she is earning a bachelor of science degree in computer and digital forensics. Melissa will graduate in May 2008 and is looking forward to establishing herself in the computer and digital forensics field.

Melissa's interest in computers and information technology (IT) began when her brother gave her an old IBM PC. It booted up with DOS and, as she recalls, was "massive." She picked up computer technology pretty fast and, from there, her interest in IT grew. Melissa drew upon that interest years later to get through her Networking Academy days, which included commuting 45 minutes to CCV and working nearly 40 hours a week at a local grocery store to put herself through school.

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Melissa particularly enjoyed the labs and routers in the Networking Academy, acknowledging "I'm more of a hands-on person. I have to do it myself or I won't get it. I really learned a lot more that way." She also liked her classmates and her teacher, Jane Donahue-Holt, whom Melissa says "was absolutely wonderful and very knowledgeable. If I had trouble, she would come over to help, explain what happened, and what to do next time."

Melissa attributes her success to working hard and trying her best at everything she does. "I'm not satisfied with just getting by. I'll keep at it until I learn it and can apply it. I want to get the 'A' instead of being satisfied with the 'C.' She applies this same desire to excel in her current studies at Champlain College where she is working on her thesis for her degree in computer and digital forensics. Little has been written on the importance of storing digital forensics information and Melissa is excited to contribute both to the literature and the case for establishing forensic databases at the police department, state, and national levels to facilitate the sharing, integration, and analysis of information.

Melissa's advice to others who may be interested in the Networking Academy is to "Prepare yourself for a lot of hard work. It's very enjoyable, but you have to be able to put the time in to be successful at it." Hard work notwithstanding, Melissa says, "All the information is worth it and the rewards are definitely there at the end."



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When she is not working or studying, Melissa enjoys a variety of hobbies and interests. Her outdoor interests include hiking, biking, swimming, and white water rafting. Her indoor interests include a passion for cooking and experimenting with new recipes, spending time with friends and family, reading, and constant learning. “I’m always wanting to learn something new. . . . I love learning!” Melissa says enthusiastically.

For information on the Networking Academy at Community College of Vermont at Burlington:

[http://www.ccv.edu/degree/network\\_admin](http://www.ccv.edu/degree/network_admin)



## Active Cisco Networking Academies in Vermont

### 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 Vermont 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 Vermont Congressional Districts

Number of Vermont Congressional Districts	Number of Vermont Congressional Districts <u>with</u> Networking Academies	Number of Vermont Congressional Districts <u>without</u> Networking Academies	% Vermont Congressional District Penetration
1	1	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 Vermont 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 – At Large

- Barre Technical Center (Barre)
- Burlington Technical Center (Burlington)
- Community College of Vermont (Waterbury)
- Green Mountain Technical Center (Hyde Park)
- North Country Career Center (Newport)
- People's Academy (Morrisville)
- River Valley Technical Center (Springfield)
- \*South Burlington High School (South Burlington)
- Southwest Vermont Career Development Center (Bennington)
- St. Johnsbury Academy (St Johnsbury)
- Stafford Technical Center - Rutland (Rutland)





## 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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