



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

|  |             |
|--|-------------|
| <b>Networking Academy students</b>   | 1078        |
| <b>Distinct cumulative academy students (having successfully completed a course)</b> | 5493        |
| <b>Academy instructors</b>   | 44          |
| <b>Total estimated cumulative contribution value to West Virginia academies*</b>     | \$3,569,170 |

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 West Virginia.

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

**Table 2.** Networking Academy Curricula in West Virginia

| <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> | 24           | 2            | 9                    | 1               | 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.** West Virginia Academies and Students by Education Level

| <b>Education Level</b>          | <b>Number of West Virginia Academy Students</b> | <b>Percentage of West Virginia Students</b> | <b>Number of West Virginia Networking Academies</b> | <b>Percentage of West Virginia Academies*</b> |
|---------------------------------|---|---|---|---|
| <b>Secondary schools</b>        | 420   | 39%   | 16  | 67%   |
| <b>Community colleges</b>       | 248   | 23%   | 3   | 13%   |
| <b>Universities</b>             | 399   | 37%   | 4   | 19%   |
| <b>Other</b>                    | 11  | 1%  | 1   | 1%  |
| <b>Total by education level</b> | 1078  | 100%  | 24  | 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 West Virginia.

**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 West Virginia

| Occupation                                       | Employment |       | Employment Change |         | Average Annual Openings | Occupational Employment as of May 2006 <sup>^</sup> |
|--|------------|-------|-------------------|---------|-------------------------|---|
|  | 2004       | 2014  | Numeric           | Percent |                         |   |
| Computer Support Specialists                     | 1,400      | 1,600 | 200               | 14      | 40                      | 1,380   |
| Computer Systems Analysts                        | 1,680      | 2,020 | 340               | 20      | 50                      | 930   |
| Network and Computer Systems Administrators      | 750        | 990   | 230               | 31      | 30                      | 720   |
| Network Systems and Data Communications Analysts | 630        | 920   | 290               | 45      | 40                      | 670   |
| Computer and Information Systems Managers        | 760        | 880   | 110               | 14      | 30                      | 530   |

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>





## West Virginia Student and Graduate Profile

Joe Gribble was looking for a challenge when in 2000 he enrolled in the Cisco® Networking Academy® at West Virginia University at Parkersburg (WVU-P) and, as he looks back on his experiences, feels he not only found but also met that challenge. Joe was already in WVU-P's Computer Information Technology program when he learned the university had registered as a Networking Academy. He was eager to enter a profession that would offer new challenges on a daily basis and wanted to enter the workforce at a higher level. Joe knew the Networking Academy would be a great way to achieve both goals. Once he learned about the new curriculum being offered, he enrolled as quickly as he could. "I knew that gaining the hands-on experience on the Cisco devices would be a valuable skill set. I saw this as a rare opportunity to broaden my knowledge base and gain experience that would be extremely valuable when searching for an IT (information technology) job."

Joe helped organize study sessions and, along with other students, created competitive scenarios for classmates using the lab exercises. "A fellow student and I used to go out and buy Cisco Certified Network Professional (CCNP®) and Cisco Certified Internet Expert (CCIE®) lab books early in the CCNA program and try to work through the labs. We would go in on Saturday mornings and find labs that would work on our devices and work all day to make it through the lab exercises." As he gained more knowledge, Joe found other students started looking to him for help, and once that expectation was placed on him, Joe felt he had to live up to it. Joe's leadership, teaching, and mentoring talents emerged and eventually led to teaching opportunities and job promotions.

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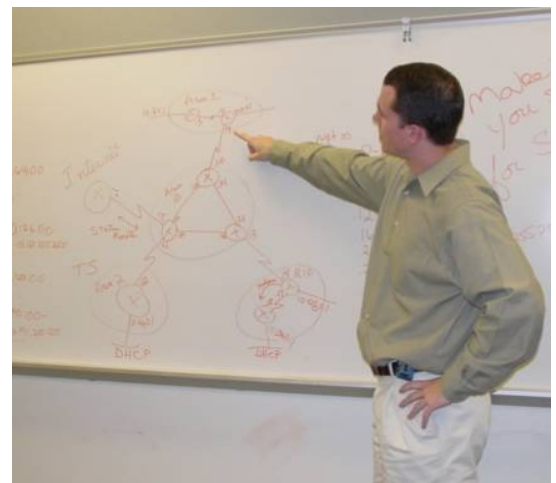
**"I knew that gaining the hands-on experience on the Cisco devices would be a valuable skill set. I saw this as a rare opportunity to broaden my knowledge base and gain experience that would be extremely valuable when searching for an IT job."**

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Joe was already working a full-time PC support job at the U.S. Department of the Treasury when he enrolled in the academy. Working full-time and going to school was demanding; but, true to form, Joe rose to the challenge and worked hard at both. With the knowledge and experience he was gaining in the academy, he was promoted from PC support to a network administrator position while still in college.

Additionally, explaining Cisco course material to fellow students laid the groundwork for gaining a weekend teaching position at a technical college in Ohio. "There was a five-year period where I was stretched pretty thin," remembers Joe, but the challenge to always learn something new kept him going. In 2004, a few semesters after completing his last class, Joe returned to the academy at WVU-P as an instructor.

Looking back, Joe credits the hands-on experience and the CCNA capstone project for helping him succeed. With the hands-on experience, "You knew you could walk into any position working on Cisco equipment and know what you were doing." The capstone project entailed designing a network for a fictitious school system;



but, recognizing the opportunity to learn even more about network design, Joe worked beyond the basic project requirements. He explains: “The more I added to my project, the more I wanted to explore. Even after the class was over, I continued to work on the project and used it as part of my job application when I applied for my first systems administrator job.”

Joe is currently the project manager and team lead for the Department of Treasury’s PKI (Public Key Infrastructure) Shared Service Provider (SSP) program. As a result, Joe says “Treasury now provides a trusted, audited, federally-approved infrastructure that is recognized by and interoperable with other government agencies. Since being approved, we have signed on NASA, Social Security Administration, Main Treasury, and Department of Homeland Security, among other agencies.”

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**Although he has taken a few semesters off from teaching, he intends to return to the academy as a Cisco instructor in the near future. “It really is rewarding” says Joe. “You have the opportunity to turn someone on to technology, to shape someone’s career, and affect their life.”**

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For his work with achieving SSP Status for Treasury's PKI program, Joe was honored as a Mulligan Award Finalist this year. The Patrick J. Mulligan Service Award is a special act award given annually to one Public Debt employee who demonstrates exemplary service to the Public Debt community and customers as demonstrated by a positive “can-do” attitude, productive interactions with customers, and conscientious attempts to provide service.

Joe hopes to continue advancing at the Department of Treasury, expand his scope of influence, and help improve government IT in as many areas as he can. Although he has taken a few semesters off from teaching, he intends to return to the academy as a Cisco instructor in the near future. “It really is rewarding” says Joe. “You have the opportunity to turn someone on to technology, to shape someone’s career, and affect their life.”

In addition to the Cisco Certified Network Associate (CCNA®) certification and Cisco Certified Academy Instructor (CCAI®) designation, Joe has earned a number of Microsoft, Dell, and other industry certifications. He has his sights set on Cisco Certified Network Professional (CCNP®) and perhaps Cisco Certified Internetwork Expert (CCIE®) certifications as well.

When he is not working for the Treasury, Joe provides Web design services and has fun being a dad to his 19-month old son. He also enjoys online gaming and hosts large gaming events for co-workers (including several former Networking Academy students) at his home three times a year.

For more information on the Networking Academy at West Virginia University at Parkersburg, visit: <http://www.wvup.edu/>



## Active Cisco Networking Academies in West Virginia

### 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 West Virginia 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 West Virginia Congressional Districts

| Number of West Virginia Congressional Districts | Number of West Virginia Congressional Districts <u>with</u> Networking Academies | Number of West Virginia Congressional Districts <u>without</u> Networking Academies | % West Virginia Congressional District Penetration |
|---|--|---|--|
| 3   | 3  | 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 West Virginia 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

- Fairmont State College (Fairmont)
- John D. Rockefeller Iv Career Center (New Cumberland)
- John Marshall High School (Glen Dale)
- Magnolia High School (New Martinsville)
- Mineral Vocational Technical Center (Keyser)
- Morgantown High School (Morgantown)
- Preston High School (Kingwood)
- PRT Technical Center (Saint Marys)
- United Technical Center (Clarksburg)
- West Virginia Northern Community College (Wheeling)
- \*West Virginia University - CATC (Morgantown)
- \*West Virginia University At Parkersburg (Parkersburg)

#### Congressional District 2

- Ben Franklin Career and Tech CTR Site 2 (Dunbar)

- Fred Eberle Technical Center (Buckhannon)
- James Rumsey Technical Institute (Martinsburg)
- Putnam Career and Technical Center (Eleanor)
- Randolph County Vocational Technical Center (Elkins)
- \*The Community and Technical College At West Virginia Inst. of Technology (Montgomery)

**Congressional District 3**

- Bluefield State College (Bluefield)
- BSC Local Academy (Bluefield)
- Cabell County Career Technology Center (Huntington)
- Marshall University (Huntington)
- Pocahontas County Local Academy (Dunmore)
- Wyoming County Local Academy (Pineville)



## 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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