



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

<b>Networking Academy students</b>	6531
<b>Distinct cumulative academy students (having successfully completed a course)</b>	20,681
<b>Academy instructors</b>	213
<b>Total estimated cumulative contribution value to North Carolina academies*</b>	\$11,345,941

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 North Carolina.

\*Sources: AME/MRE reports 1210\_190810.31.07 Date: November 30, 2007

**Table 2.** Networking Academy Curricula in North Carolina

<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>	89	4	37	9	6

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.** North Carolina Academies and Students by Education Level

<b>Education Level</b>	<b>Number of North Carolina Academy Students</b>	<b>Percentage of North Carolina Students</b>	<b>Number of North Carolina Networking Academies</b>	<b>Percentage of North Carolina Academies*</b>
<b>Secondary schools</b>	2939	45%	47	48%
<b>Community colleges</b>	3200	49%	46	46%
<b>Universities</b>	392	6%	6	6%
<b>Other</b>	0	0%	0	0%
<b>Total by education level</b>	6531	100%	99	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 U.S., and Table 5 lists this information for North Carolina.

**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 North Carolina

Occupation	Employment		Employment Change		Average Annual Openings	Occupational Employment as of May 2006 <sup>^</sup>
	2004	2014	Numeric	Percent		
Computer Support Specialists	18,540	22,510	3970	21	630	17,720
Computer Systems Analysts	15,910	20,100	4180	26	600	13,510
Network and Computer Systems Administrators	7340	10,270	2930	39	370	6720
Network Systems and Data Communications Analysts	7600	11,410	3810	50	470	6820
Computer and Information Systems Managers	8090	9970	1880	23	340	7950

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/oesncst.htm>





## North Carolina Student and Graduate Profile

At only 21 years of age, Rick Black has experienced personal challenges that might have sidetracked a less determined individual. As a student at Catawba Valley Community College (CVCC) in Hickory, Rick was working his way through college, studying for a degree in information systems, going through a divorce, and raising a child. His life has since settled down a bit and today Rick enjoys being a dad and working at his first professional job. He finds himself excited about the future: “Every day, there is something new to learn in technology. My skills grow with each new experience and I look forward to utilizing all the skills I learned in the Cisco® Networking Academy® in the field.”.

Rick grew up “when the Internet was just reaching broadband speeds.” He says, “I enjoyed working with computers and after taking a few basic computer classes in high school I decided that my future was in technology.” Rick enrolled at CVCC and took his first Cisco Certified Network Associate (CCNA®) course as part of his associate’s degree program in information systems. He enjoyed the first semester so much that he decided to take all of the Networking Academy classes offered at CVCC.

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**“I will admit, I hate sitting down and reading text books, but after overcoming that challenge, the hands-on labs were my reward. Having physical routers and switches to work with was definitely a large help.”**

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Then life became more challenging. Rick was going to school full-time, working part-time, raising a child, and going through a divorce. “Raising a child and working through a divorce were two of the largest challenges I faced while in the Networking Academy,” he acknowledges. “Despite those two challenges, I rarely missed a class and if I did, I would work extra hard to make up what I missed on my own time.” Rick persevered, and completed the Networking Academy CCNA curriculum in May 2007, then earned his CCNA certification five months later.

As a student, Rick enjoyed the lab exercises, saying, “I will admit, I hate sitting down and reading text books; but, after overcoming that challenge, the hands-on labs were my reward. Having physical routers and switches to work with was definitely a large help. Simulators are nice, but having physical equipment makes what you learn really matter. Also, physical equipment adds in that ‘unknown’ factor which introduces extra challenges.”

Rick attributes his success at the Networking Academy to his instructor, Tonya Stephens. “Tonya was the biggest factor in helping me succeed in the Networking Academy. She would stay late, meet you on her off-time, and really take time to explain the concepts to you.” Tonya, on the other hand, says “Rick is successful because he sets goals. He then applies equal parts hard work, an eagerness to learn, and a can-do attitude to achieve those goals. Rick’s diligence set him apart from his fellow students, but that diligence also inspired his classmates to work harder.”



Today, Rick works for Carolina Container Company as an IT technician. He is responsible for PC hardware repair, basic networking repair, software support, and thin client support. On occasion, he also helps other technicians configure Cisco equipment and set up Cisco wireless access points. Having acquired his CCNA certification, Rick has now established a new

goal of earning his Cisco Certified Internetwork Expert (CCIE®) certification in Routing and Switching. He would also like to give back to the Networking Academy community by becoming an academy instructor at his alma mater CVCC.

Tonya supports her former student, saying “I believe Rick’s experience as an academy student will provide him with unique insights as an academy instructor. When a student hits a tough spot, Rick will be able to share his experiences as student and offer knowledgeable encouragement as well as quality instruction.”

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**“Rick’s diligence set him apart from his fellow students, but that diligence also inspired his classmates to work harder.”**

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**Tonya Stephens, Rick’s Networking Academy instructor at Catawba Valley Community College**

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Rick’s advice to others who may be interested in the Networking Academy is to “Work hard, study hard, and do your own research. The Networking Academy can teach you a great deal, but there is so much to learn that you have to take your own initiative to go out and learn on your own.”

Outside of technology, Rick most enjoys spending time with his daughter. When she is not with him, Rick enjoys reading and playing video games.

For more information on the Networking Academy at Catawba Valley Community College, visit: <http://cisco.cvcc.edu/>



## Active Cisco Networking Academies in North Carolina

### 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 North Carolina 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 North Carolina Congressional Districts

Number of North Carolina Congressional Districts	Number of North Carolina Congressional Districts <u>with</u> Networking Academies	Number of North Carolina Congressional Districts <u>without</u> Networking Academies	% North Carolina Congressional District Penetration
13	13	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 North Carolina 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

- Edgecombe Community College (Tarboro)
- Beaufort County Community College (Washington)
- Halifax Community College (Weldon)
- Lenoir Community College (Kinston)
- \*Lenoir County Public Schools Cyber Campus (Kinston)
- Martin Community College (Williamston)
- Martin County Schools (Williamston)
- Pitt Community College (Greenville)
- Vance Granville Community College (Henderson)
- Warren County Schools (Warrenton)
- Wilson Technical CC (Wilson)

#### Congressional District 2

- Central Carolina Community College (Sanford)

- Johnston Community College (Smithfield)
- Nash Community College (Rocky Mount)
- Lee County High School (Sanford)
- \*Southeast Raleigh HS (Raleigh)
- West Johnston HS (Benson)

#### Congressional District 3

- Coastal Carolina Community College (Jacksonville)
- \*Craven Community College (New Bern)
- DODEA/ USA - Camp Lejeune High School (Camp Lejeune)
- East Carolina University (Greenville)
- Havelock Campus Craven Community College (Havelock)
- Northern Nash High School (Rocky Mount)
- Wayne Community College Curriculum (Goldsboro)

#### **Congressional District 4**

- Cardinal Gibbons High School (Raleigh)
- Chapel Hill High School (Chapel Hill)
- \*Durham Technical Community College (Durham)
- Green Hope High School (Cary)
- Middle Creek High School (Apex)
- North Carolina Central University (Durham)
- \*Wake Technical Community College (Raleigh)

#### **Congressional District 5**

- Surry Community College (Dobson)
- Wilkes Community College (Wilkesboro)
- Yadkin County Schools (Yadkinville)

#### **Congressional District 6**

- Alamance Community College (Graham)
- Eastern Guilford High School (Gibsonville)
- Eastern Randolph High School (Ramseur)
- Guilford Technical Community College (Jamestown)
- Moore County Schools (Carthage)
- Northwest Guilford High School (Greensboro)
- Randolph Community College (Asheboro)
- Sandhills Community College (Pinehurst)

#### **Congressional District 7**

- Ashley High School (Wilmington)
- Brunswick Community College (Supply)
- Cape Fear Community College (Wilmington)
- James Sprunt Community College (Kenansville)
- John T. Hoggard H. S. (Wilmington)
- University of North Carolina at Wilmington (Wilmington)
- South Columbus High School (Tabor City)
- Whiteville City Schools (Whiteville)

#### **Congressional District 8**

- \*Central Piedmont Community College (Charlotte)

- Central Piedmont Community College-Curriculum (Charlotte)
- CWA/Cisco/Stanly Local (Albemarle)
- East Mecklenburg High School (Charlotte)
- Fayetteville Technical Community College (Fayetteville)
- Midwood Cisco Networking Academy (Charlotte)
- Pfeiffer University (Misenheimer)
- South Piedmont Community College (Monroe)
- \*Stanly Community College - Regional (Albemarle)
- Stanly County Schools (Albemarle)

#### **Congressional District 9**

- Ardrey Kell High School (Charlotte)
- Butler High School (Matthews)
- Central Academy of Technology & Arts (Monroe)
- Central Piedmont Community College -South (Matthews)
- Highland School of Technology (Gastonia)
- Independence High School (Charlotte)
- Myers Park High School (Charlotte)
- North Mecklenburg High School (Huntersville)
- Providence High School (Charlotte)

#### **Congressional District 10**

- Burke County Public Schools (Morganton)
- \*Caldwell Community College and Technical Institute (Hudson)
- Catawba Valley Community College (Hickory)
- Lake Norman High School ( Mooresville)

#### **Congressional District 11**

- \*Asheville-Buncombe Technical Community College (Asheville)
- Blue Ridge Community College (Flat Rock)
- Buncombe County Public Schools (Asheville)
- Isothermal Community College (Spindale)

- Southwestern Community College-Sylva Campus(Sylva)
- \*Southwestern Community College (Sylva)

**Congressional District 12**

- Andrews High School (High Point)
- Career Center (Winston Salem)
- Central Piedmont Community College - Southwest (Charlotte)
- Davidson County Community College (Lexington)
- E.E. Waddell High School (Charlotte)
- \*Forsyth Technical Community College - Regional (Winston Salem)
- Garinger High School (Charlotte)
- High Point Central High School (High Point)

- NC A&T Electronics and Computer Technology (Greensboro)
- Phillip O. Berry Cisco Networking Academy (Charlotte)
- Rowan Cabarrus Community College (Salisbury)
- Vance High School (Charlotte)

**Congressional District 13**

- Athens Drive High School (Raleigh)
- \*Guilford County Schools - Weaver Academy (Greensboro)
- Knightdale High School (Knightdale)
- Piedmont Community College (Roxboro)
- Wakefield High School (Raleigh)
- Weaver Education Center (Greensboro)





## 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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