



Cisco Networking Academy: North Dakota Profile

Cisco® Networking Academy® is playing a critical role in the U.S. economic recovery by preparing students for the sustainable jobs that government, education and industry all agree will fuel America's ability to innovate and compete, not just today but in the future. As the focus turns to infrastructure, Networking Academy provides students with critical IT and networking skills to design, build, and maintain the infrastructure highway that both the public and private sector now depend on for sustainability.

The new Obama administration clearly recognizes the importance that technology plays in preparing students to compete in a 21st century global economy. In a speech on January 8, 2009, at Virginia's George Mason University, President Obama highlighted the current science and technology skills gap in the United States and the urgent need to address it:

“To give our children the chance to live out their dreams in a world that’s never been more competitive, we will equip tens of thousands of schools, community colleges, and public universities with 21st century classrooms, labs, and libraries. We’ll provide new computers, new technology, and new training for teachers, so that students in Chicago and Boston can compete with kids in Beijing for the high-tech, high-wage jobs of the future.”

Cisco Networking Academy is a proven model for delivering 21st century learning because it delivers:

- rigorous and interactive curricula licensed at no cost to nonprofit educational institutions
- an e-learning platform that supports different learning styles
- web-based content available to students 24/7
- online assessments
- student performance tracking
- hands-on labs
- instructor training and support

Networking Academy is a unique public-private partnership between educational institutions, national, state and local government, and community-based organizations, currently educating more than 128,000 students in over 2,200 U.S. educational institutions.

As an education solution, Networking Academy encourages seamless educational pathways between secondary and post-secondary institutions by using curricula aligned to national and state education standards for math, language arts, and technology and industry certifications. These courses also help students prepare to pursue degrees related to science, technology, engineering, and math (STEM). Networking Academy courses provide instructors with tools to help students make the connection between their educational experience and their careers. In the United States, academies are located in high schools, technical schools, colleges, universities, and community-based organizations.

Cisco Networking Academy provides:

- IT and networking skills mapped to high-skill, high-demand, high-wage 21st century jobs across virtually every industry
- sustainable partnerships at all levels of education, including community colleges at the forefront of workforce development and retraining

- strong alignment with high school career and technical education programs that build technical skills and create pathways for high school graduates going either directly into the workforce or on to post-secondary education
- the skilled pipeline of talent required to design, build and maintain the infrastructure needed for economic recovery

Included in each state profile are Networking Academy statistics, IT workforce projections, and student/graduate stories. These state-by-state profiles will provide you with important information about the value Cisco brings to government, education and business through delivery of IT/networking skills and knowledge. Cisco Networking Academy educates the architects of today's networked economy.

Profiles are updated annually with core content, and we will continue to add student/graduate profiles. For your convenience, the library of profiles for each state, plus the District of Columbia and the United States as a whole, are accessible at <http://www.cisco.com/go/netacadresourcecenter>.

We welcome your suggestions for future profiles. Please send any questions and feedback to our U.S. Marketing Team via Nancy Bischoff at nbischof@cisco.com.

Learn More

Table 1 lists data about academies in North Dakota. Table 2 lists information about Networking Academy curricula in North Dakota, 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 Dakota

Networking Academy students	1222
Female Networking Academy students	16% female
Distinct cumulative academy students (having successfully completed a course)	3578
Academies	40
Academy instructors	50
Total estimated cumulative contribution value to North Dakota academies*	\$2,471,345

Sources: AME/MRE FULL Package_10 31 08 Quarterly Metrics Date: Nov 13, 2008

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 Dakota.

*Sources: AME/MRE report #3616student and instructor enrollment by year 2008.11.24_JBZ_v8.xls

Table 2. Networking Academy Curricula in North Dakota

Curriculum	All	ITE	CCNA 1, 2	CCNA 3, 4	Advanced Technologies and Other*
Number of academies by curriculum	40	80%	53%	18%	0%

The above curricula represent the core Networking Academy curricula.

*Includes CCNP, Security, Wireless, Java, UNIX and Panduit Network Infrastructure Essentials (PNIE)

Academies often teach multiple curricula and may be counted more than once in this table.

Source: AME/MRE rpt #3651 as of 10.31.08 v2 Date: Dec 8, 2008

Table 3. North Dakota Academies and Students by Education Level

Education Level	Total Number	Secondary Schools	Community Colleges	Universities	Other
North Dakota Students*	1222	66%	31%	3%	0%
North Dakota Academies*	40	74%	24%	3%	0%

Sources: AME/MRE FULL Package_10 31 08 Quarterly Metrics Date: Nov 13, 2008

*For academies that self identify as more than one education level, the academies and students in this table are distributed proportionately across the education levels.

Academies represented in "Other" category include the following: community-based organizations, middle schools, the military, nontraditional educational settings, and post-graduate institutions.



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Active Cisco Networking Academies in North Dakota 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 4 lists information about academies in North Dakota congressional districts.

Table 4. Networking Academies in North Dakota Congressional Districts

Number of North Dakota Congressional Districts	Number of North Dakota Congressional Districts <u>with</u> Networking Academies	Number of North Dakota Congressional Districts <u>without</u> Networking Academies	% North Dakota Congressional District Penetration
1	1	0	100%

Academies listed here have taught a class with at least three students, or adopted a new curriculum, within the last twelve months

Source: MRE/Academy Connection, U.S. Congressional District Database Date: October 31, 2008

Active North Dakota Cisco Networking Academies by Congressional District

* Indicates Cisco Networking Academy Training Center

Academies listed here have taught a class with at least three students, or adopted a new curriculum, within the last twelve months

Source: MRE/Academy Connection, U.S. Congressional District Database Date: October 31, 2008

Congressional District – At Large

- Beulah (Beulah)
- Bismarck State College (Bismarck)
- Cavalier High School (Cavalier)
- Center / Stanton Public School (Center)
- Fargo South High School (Fargo)
- Fort Berthold Community College (New Town)
- Grand Forks Public Schools (Grand Forks)
- Grand Forks Red River (Grand Forks)
- Harvey Public Schools (Harvey)
- Hatton Public School (Hatton)
- James Valley Area Career and Technology Center (Jamestown)
- Killdeer High School (Killdeer)
- *Lake Region State College/Lake Area Vo-Tech (Devils Lake)
- Lamoure Public School (Lamoure)
- Leeds Public School (Leeds)
- Litchville-Marion High School (Marion)

- Mandan High School (Mandan)
- McClusky Public Schools (McClusky)
- Midkota High School (Glenfield)
- Minot Public Schools (Minot)
- Minot Public Schools (Minot)
- Minot State University-Bottineau (Bottineau)
- Mott High School (Mott)
- New Rockford Public School (New Rockford)
- North Central Public School (Rocklake)
- *North Dakota Career and Technical Education (Bismarck)
- North Dakota State College of Science (Wahpeton)
- Oakes High School (Oakes)
- Scranton Public School (Scranton)
- Sitting Bull College (Fort Yates)
- Skills & Technology Training Center (Fargo)
- South Heart High School (South Heart)
- Southeast Area Vocational Technical Center (Oakes)
- St. Mary's High School (Bismarck)
- Turtle Mountain Community College (Belcourt)
- UND (Grand Forks)
- United Tribes Technical College (Bismarck)
- Valley City Vocational Center (Valley City)
- Williston High School (Williston)
- *Williston State College (Williston)



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Cisco Networking Academy: Workforce Development in North Dakota

Cisco® Networking Academy® is ready to help U.S. workers learn critical IT and networking skills through academies located in high schools, community colleges, four-year colleges, and nontraditional settings. Developing in-demand technical skills in a timely, focused program enables students to quickly find and retain sustainable, high-paying jobs. Academy courses map to industry certifications and prepare students for technical jobs in a new, improved technical infrastructure across the nation. Even students who complete introductory courses will be prepared to work for companies that depend on a technical infrastructure for business sustainability.

“Obama’s pro-tech agenda could increase the number of technology jobs in the United States by 10 percent, adding about 300,000 high-paying IT positions.” –Katherine McGuire, VP of government relations, Business Software Alliance ¹

“Even with this economic downturn, the jobs outlook in IT for 2009 is better than that of many other industries, since IT is no longer at the peripheral of industries but at the core of their competitive edge, and IT will play a critical role in the infrastructure build out.” –David Foote, CEO of Foote Partners LLC, which analyzes IT wages and hiring data ¹

As the U.S. remains focused on economic recovery throughout 2009, there is a growing emphasis on upgrading the educational infrastructure to deliver the required knowledge and skills to build the needed technical workforce to support and maintain technology infrastructure assets and requirements. Just as the interstate highway investment created millions of construction jobs, which were then followed by maintenance and automotive jobs in the long term, so technology investments will initially create jobs necessary to design and deploy technology infrastructure, and these jobs will be followed by an array of new business opportunities.

“Investments in America’s digital infrastructure will spur significant job creation in the immediate term. An investment of \$40 billion in IT network infrastructure in 2009 will create more than 949,000 U.S. jobs, more than half of which will be in small businesses.” –Technology CEO Council press release ²

Cisco Networking Academy addresses the need for 21st century teaching and learning models that prepare students to move into the pipeline of talent needed to fill these high-skill, high-wage, high-demand careers.

“We will enable students of all ages to learn in 21st century classrooms, labs, and libraries, to help our students compete with any worker in the world.” –American Recovery and Reinvestment Plan press release ³

In a recent report, the Information Technology and Innovation Foundation “finds that investments in America’s digital infrastructure will spur significant job creation in the short run. Specifically, ITIF estimates that an additional investment of \$30 billion in America’s IT network infrastructure in 2009 will create approximately 949,000 U.S. jobs.” ⁴

¹ Computerworld, 1/5/09, *Stimulus could create thousands of IT jobs*, <http://www.computerworld.com/action/article.do?command=viewArticleBasic&articleId=331783>

² Technology CEO Council, Wash. D.C. 1/29/09, http://www.techceocouncil.org/index.php?option=com_content&task=blogsection&id=8&Itemid=159

³ American Recovery and Reinvestment Plan press release, 1/16/09, <http://appropriations.house.gov/pdf/PressSummary01-15-09.pdf>

⁴ ITIF, 1/7/09, *The Digital Road to Recovery: A Stimulus Plan to Create Jobs, Boost Productivity and Revitalize America*, <http://www.itif.org/index.php?id=212>

IT Occupational Data

Table 5 lists information about IT-related occupations in the United States, and Table 6 lists this information for North Dakota.

Table 5. Selected IT-Related Occupations in the United States

Occupation	Employment		Employment Change		Average Annual Openings	Occupational Employment as of May 2007*
	2006	2016	Numeric	Percent		
Computer Support Specialists	552,000	624,000	71,000	21.9	24,000	525,570
Computer Systems Analysts	504,000	650,000	146,000	29	28,000	446,440
Network and Computer Systems Administrators	309,000	393,000	83,000	27	15,000	309,660
Network Systems and Data Communications Analysts	262,000	402,000	140,000	53.4	19,000	216,050
Computer and Information Systems Managers	264,000	307,000	43,000	16.4	9,000	264,990

U.S. Department of Labor, Bureau of Labor Statistics, <http://www.projectionscentral.com>, based on data availability as of October 31, 2008

*U.S. Department of Labor, Bureau of Labor Statistics, May 2007 State Occupational Employment and Wage Estimates (US), <http://stat.bls.gov/oes/current/oesrcst.htm>

Table 6. Selected IT-Related Occupations in North Dakota

Occupation	Employment		Employment Change		Average Annual Openings	Occupational Employment as of May 2007^
	2006	2016	Numeric	Percent		
Computer Support Specialists	1022	1235	213	20.8	34	Estimates Not Released
Computer Systems Analysts	826	1109	283	34.3	37	660
Network and Computer Systems Administrators	534	696	162	30.3	22	440
Network Systems and Data Communications Analysts	387	549	171	45.2	22	280
Computer and Information Systems Managers	553	673	140	26.3	24	420

U.S. Department of Labor, Bureau of Labor Statistics, <http://www.projectionscentral.com>, based on data availability as of October 31, 2008

^ U.S. Department of Labor, Bureau of Labor Statistics, May 2007 State Occupational Employment and Wage Estimates (by state), <http://stat.bls.gov/oes/current/oesrcst.htm>



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North Dakota Student and Graduate Profile

In 1998, Cole Arndt was enrolled in pre-med courses at Williston State College in North Dakota when the school began offering the Cisco® Networking Academy®.

His plans on becoming a medical doctor changed after taking a computer class with instructor Ken Quamme. “Ken has a way of enticing you enough to lure you in and make you want to learn more.”

Cole became one of the first students at the school to take the Networking Academy’s Cisco Certified Network Associate (CCNA®) course and receive his CCNA certification. He currently works full time at HealthNet LLC as a technical analyst.

“If it weren’t for the Networking Academy, I wouldn’t be where I am at today. It has opened the doors for me in many ways.”

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Cole Arndt

As part of his degree program, Cole was required to complete an internship each semester.

He assisted in teaching Semester 2 of the CCNA class and also helped managed the technology lab. “Cole was instrumental in assisting in the lab and Cisco class at a time that was very critical to the college,” says Ken. “The program was new to our college, and the only other instructor trained in the curricula was called for military duty in between semesters. I didn’t panic... I just went to Cole, who was an excellent student, and I asked if he would be willing to assist with the CCNA course and labs. His involvement benefited the students, the college, myself, and I believe it gave Cole a great experience in presenting to a group and helping one-on-one.”

During his third semester, Cole’s academy class was given the opportunity to design and wire a new training facility that was added to the college campus.

He says these experiences helped to reinforce his learning and provided plenty of hands-on learning. By 2000, Cole had completed his courses at the Networking Academy, obtained his CCNA certification, and graduated from Williston State College with an associate’s degree in applied science.

In 2001, Cole decided to pursue a bachelor’s degree in applied science at Minot State. Soon after beginning classes, he was hired at HealthNet, LLC, where he is currently employed.

Due to his work schedule and the responsibilities that come with a growing family, Cole decided to complete his courses online. “My experience in Internet-based coursework offered by the Networking Academy classes helped me settle right into my classes at Minot State.” Cole graduated from Minot State with a bachelor’s degree in management information systems in 2006.

As a technical analyst with HealthNet, Cole is responsible for managing the installation of an electronic medical record project into three of the four clinics the company services.

In addition, he oversees the data center and associated hardware that is used to connect the three remote sites to the center. “The knowledge of Cisco hardware has helped me greatly since our core routers and switches are Cisco products. The

methodology that I learned throughout the Networking Academy has helped in troubleshooting problems from network connectivity to programming to working out processes.”

Cole is considering pursuing his master’s degree and has plans to renew his CCNA certification and then complete the Cisco Certified Network Professional (CCNP®) certification. For additional information on the Networking Academy at Williston State College, visit: <http://www.wsc.nodak.edu/>



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