

# The Cisco Networking Academy Program

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## **Introduction**

The purpose of this paper is to describe Cisco's Networking Academy Program and identify typical implementation processes.

## **Purpose and Scope**

The Cisco Networking Academy Program is an e-learning program that provides students with the Internet technology skills essential in a global economy.

The Networking Academy delivers:

1. Web-based content
2. Online assessment
3. Student performance tracking
4. Hands-on labs
5. Instructor training and support
6. Preparation for industry standard certifications.

Initially created to prepare students for the Cisco Certified Network Associate (CCNA) and Cisco Certified Network Professional (CCNP) degrees, the Academy curriculum has expanded with partner sponsored courses. Optional courses include: Fundamentals of Web design sponsored by Adobe Systems; IT Essentials: PC Hardware and Software, and IT Essentials: Network Operating Systems sponsored by Hewlett-Packard; Fundamentals of Voice and Data Cabling sponsored by Panduit; and Fundamentals of UNIX and Fundamentals of Java sponsored by Sun Microsystems.

Academy courses help prepare students to test for the following certifications:

1. Cisco Certified Network Associate (CCNA) certification
2. Cisco Certified Network Professional (CCNP) certification
3. World Organization of Webmasters Certified Web Design Apprentice (CWDS) certification
4. CompTIA Network+, CompTIA A+, and CompTIA Server+ certifications
5. BICSI Registered Level I, Installer Exam
6. Sun Microsystems Sun Certified Programmer for Java 2 Platform

## **History**

Launched in October 1997 with 64 educational institutions in seven states - Arizona, California, Florida, Minnesota, Missouri, New York, and North Carolina - the Networking Academy has spread to more than 145 countries and all 50 U.S. states. Over 260,000 students have enrolled at more than 9800 Academies located in high schools, technical schools, colleges, universities, and community-based organizations.

## Global Stats (10/17/2003)

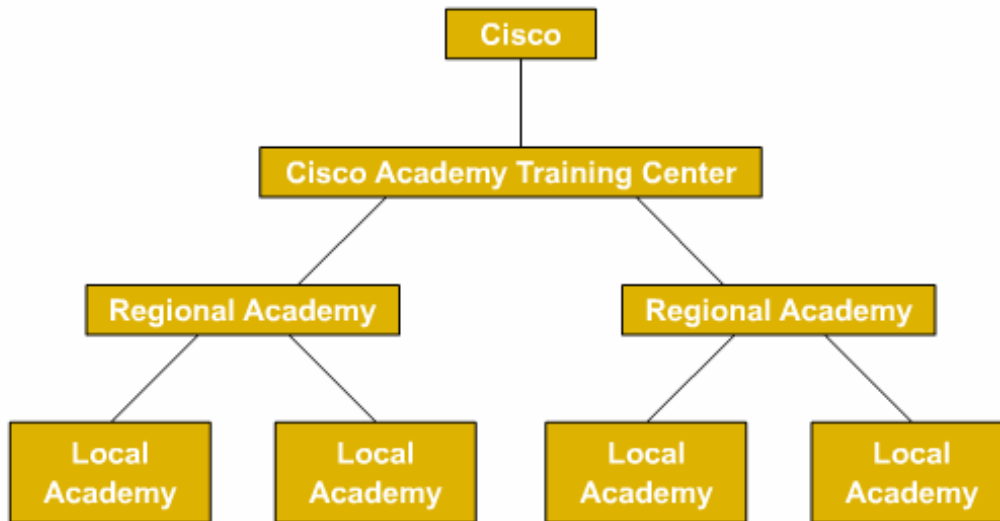
514,225	Participating Students
24,418	Participating Instructors
10,557	Participating Academies Total
10,424	Participating Local Academies
1,196	Participating Regional Academies
88	Participating Cisco Academy Training Centers (CATCs)
50	U.S. States (plus the District of Columbia)
152	Countries/Territories/Entities

In Massachusetts there are 63 High Schools participating as local or regional academies. A complete listing can be found in Appendix A - High School Listings for Massachusetts.

## The Hierarchy of Academies- an Overview

Cisco Systems trains the Cisco Academy Training Centers (CATCs), the CATCs train Regional Academies and the Regional Academies train the Local Academy Instructors who then educate students.

## Program Structure



In order to teach any curriculum offered through the Cisco Networking Academy Program, individuals must have a support relationship established with an Academy from the tier directly above the tier that their Academy is designated. An example of a Support Academy relationship can be illustrated by a Local Academy going to their Regional Academy for help or assistance. A Regional Academy would go to a CATC for help or assistance. In some cases, an Academy may be able to have one "Support Academy" take care of support for all of their curriculum offerings. However, since not all training Academies offer all courses, Local Academies and Regional Academies that are teaching multiple curricula subjects may need to establish more than one Support Academy relationship

### ***Cisco Academy Training Centers***

Each Cisco Academy Training Center (CATC) trains, supports, and monitors the instructors at approximately 30 Regional Academies. A CATC is responsible for the quality of training conducted at its center and the subsequent instructional qualities of the Regional Academy instructors, who train Local Academy instructors. Along with Cisco, CATCs set the standard of quality for the entire Networking Academy Program system

### ***Regional Academies***

Each Regional Academy functions as a training and support center for Local Academies and passes down the instructional and program quality standards set by Cisco and the CATCs. A Regional Academy is required to recruit and maintain (actively teaching the curriculum) a minimum of ten (10) Local Academies for each curriculum they offer. This ensures that each of its Local Academies remains in compliance with the program requirements as set forth in the Quality Assurance Plan. Each Regional Academy will train instructors from Local Academies on a given curriculum and then support them in a timely and ongoing manner. They will do this by:

Providing continuing education for local instructors (a minimum of two sessions per year)

1. Orienting instructors to the program
2. Helping local instructors set up their classrooms
3. Answering technical and curriculum questions
4. Fulfilling equipment needs

### ***Local Academies***

Local Academies are educational institutions which include K-12 schools, community colleges, colleges, accredited career colleges, and universities, military and community-based organizations. These institutions teach individuals the knowledge, problem-solving abilities, and critical thinking skills they need to pursue a career in networking and other areas of Information Technology to succeed in the 21st-century work place.

Each Local Academy is responsible for providing an appropriate environment for the following:

1. Conducting classes
2. Selecting competent instructors
3. Ensuring that its instructors receive the training that enables them to teach the curriculum while maintaining the program quality standards set forth in the Quality Assurance Plan (QAP)

## The Curriculum

The Academy Connection portal is just for Academy use, and provides access to the online Academy community, used to effectively manage Academies, classes, users and deliver curriculum and exams. It serves as an online community space with a login for personalized instructor, administrator and/or student experiences.

## Academy Connection Home Page

The screenshot shows the Academy Connection Home Page. At the top left is the Cisco Systems logo. To the right are links for 'Contacts & Feedback' and 'Site Help'. Below the logo is a search bar with 'Academy Connection Home' and a 'GO' button. A navigation menu on the left includes 'Home', 'Networking Academy', 'Global Learning Network', 'Workforce Development', 'Digital Divide', and 'Newsroom'. The main content area features a large welcome message: 'Welcome to the Cisco Networking Academy Program web site. Our comprehensive, global e-learning program offers students an opportunity to pursue IT curricula through online instructor-led training and hands-on laboratory exercises. As a result, students can apply classroom learnings to actual technology challenges, which ultimately prepares tomorrow's workforce for life-long learning opportunities.' Below this is a section titled 'Cisco Networking Academy Program' with six sub-sections: 'Networking Academy Program Overview', 'Global Learning Network', 'Workforce Development', 'Digital Divide', 'Newsroom', and 'Get Involved'. A right sidebar contains 'Academy Users Login' for instructors (with links for CCNA, CCNP, New Curriculum, Forgot Username/Password?, Initial Registration, Get a Serial Number, and Student Login) and students (with a Student Login link and Login help). Below this is an 'Academy Locator' section with the text 'Find an Academy near you.' and 'International Related Sites' with links for Asia Pacific, Canada, EMEA, Japan, and Latin America. At the bottom of the sidebar is a 'News and Events' section with a photo and the text 'High Number of CCNA Certifications Eamed in the School District of Philadelphia.' and a 'More' link. A vertical copyright notice on the far right reads '© Cisco Systems, Inc. 2002'.

Key features of the management system include the following:

1. The online Teacher's Guides provides comprehensive teaching resources to Academy Instructors. These electronic handbooks provide detailed blueprints for teaching the Academy curriculum. They include lesson plans, explanations of lab exercises, and tested teaching suggestions. Instructors have access to around-the-clock technical support from the Cisco Technical Assistance Center.
2. Online assessment monitors progress and fosters accountability. The assessment system enables globally standardized online testing and provides immediate feedback to students and instructors. Through continuous tracking of performance and frequent program refinement, the assessment process helps ensure accountability.
3. The Academy Connection provides a forum for shared intelligence. All Academies enjoy access to an online community that features downloadable

- curricula, software, instructor resources, and threaded discussion forums. These forums provide instructors worldwide with an opportunity to share information and get quick answers to either technical or teaching questions.
4. The management system simplifies general program management. The management system is a convenient, electronic resource that allows Academies to manage student information, program contacts, Academy applications, equipment listings, training schedules, and registration.

Networking Academies are built on Cisco e-learning models. E-learning does not replace the teacher-student relationship. Cisco believes that e-learning must recreate, as closely as possible, the benefits of personal instruction provided by teachers in traditional classroom settings. Therefore, students and instructors must have access to interactive, media rich technologies along with management tools for assessment and analysis. The Cisco Global Learning Network (GLN), designed to meet these e-learning requirements, uses a number of techniques to help deploy network-enhanced learning solutions:

1. Personalized Feedback, providing students and instructors with information on each student's progress and proficiency level
2. Internet-Enabled Assessment, allowing teachers to personalize learning based on assessment results
3. Rich Media, promoting broad, media-intensive curricula for text, video, audio, interactive, and animated content, all of which address multiple learning styles and needs
4. Integrated and Scalable Architecture, for a reliable and comprehensive end-to-end e-learning solution

# Instructor Home Page

The screenshot displays the Instructor Home Page of the Cisco Systems Networking Academy. The page is structured with a header, a navigation bar, and a main content area. The header includes the Cisco Systems logo and navigation links for 'My Profile', 'Give Feedback', 'Contact Us', and 'Logout'. The navigation bar features 'ACADEMY CONNECTION' and 'INSTRUCTOR HOME'. The main content area is titled 'Instructor Home' and contains several sections: 'Headlines' with a link to 'View Headline Listings', 'Teach' with a link to 'Hide Secondary Classes', 'Manage Student Classes', and 'Manage Instructor Classes'. Both the 'Manage Student Classes' and 'Manage Instructor Classes' sections list 'Stanly Community College - Regional' and provide links to 'Manage Academy', 'Add Students and Users', 'Manage Academy User List', 'Add New Student Class', and 'View Historical Student Class List'. A 'VIEW REPORTS' button is located at the bottom left. On the right side, there is a 'Search' section with a search box and a 'GO' button, and a 'Resources' section with links to 'Tools', 'Community FTP Center', 'Course Materials', 'Library', 'Glossary', and 'Community'. A vertical copyright notice '© Cisco Systems, Inc. 2002' is on the far right.

The Learn section enables instructors to register themselves for training and view classes they took in the past. They can also view Academy information from this area of the home page.

Professional Development allows instructors to access links for their own professional development and career development including information on CCAI Certification, Discount Testing Vouchers, and the Quality Assurance Plan.

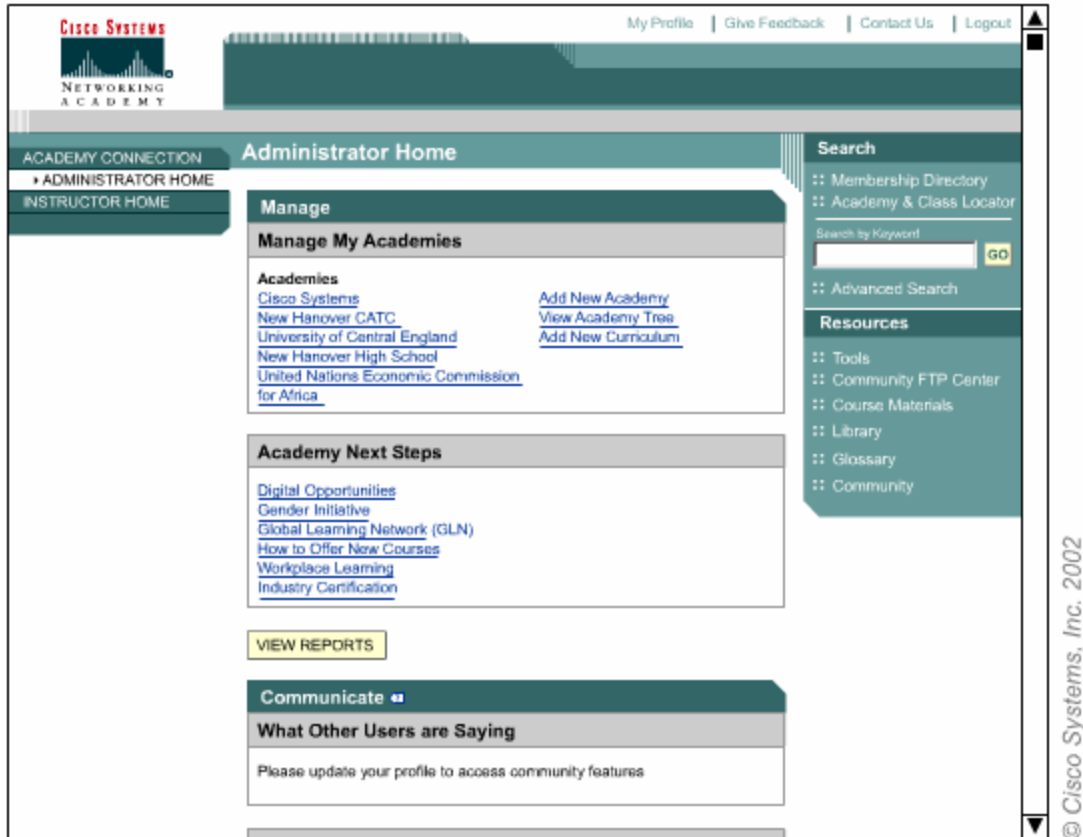
The Communicate section includes links to send e-mails and postings to groups, a discussion board section, and a section to report curriculum and assessment bugs.

By selecting a course name, an instructor could:

1. Edit class information
2. Check on exam status and activation
3. Manage the course grade book
4. Monitor the roster
5. Allow students to print certificates and letters
6. Address best practices, equipment, and plans
7. View instructor and student course content
8. Participate in message board discussions
9. Link to Virtual Classroom screens

10. Access additional class material

# Administrator Home Page



The administrator home page consists of three main sections:

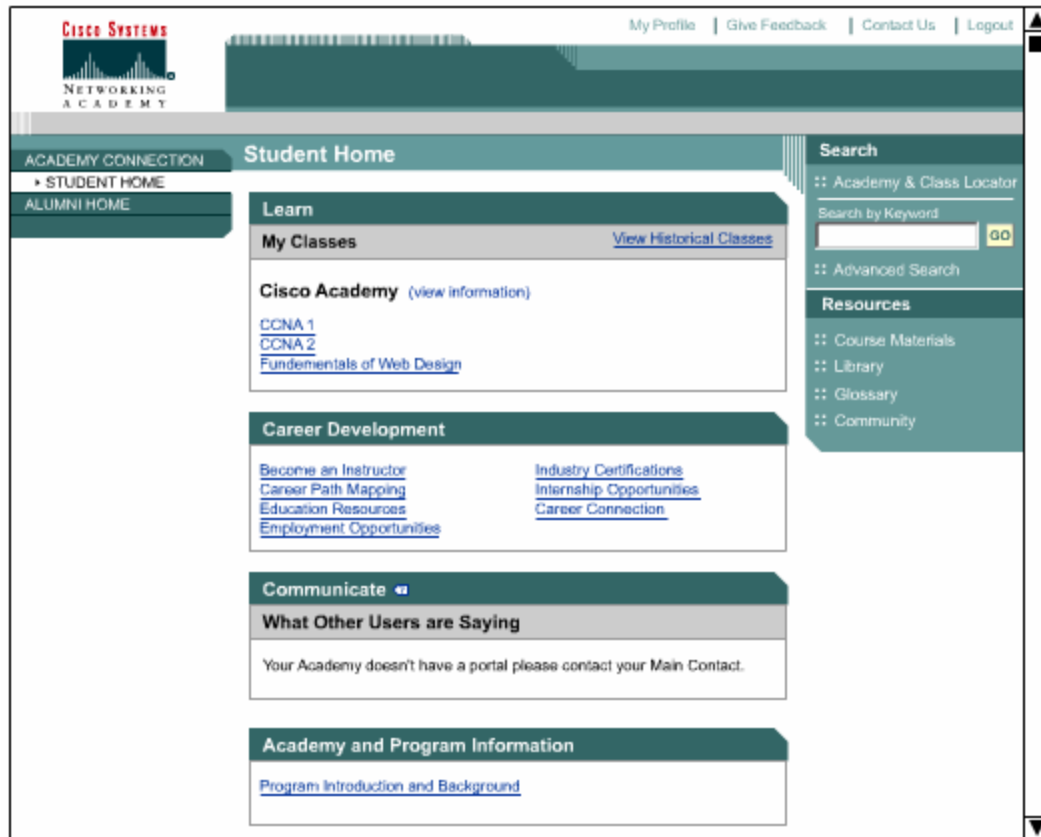
1. Headlines
2. Manage
3. Communicate

The Manage section provides the following abilities:

1. Link to Academy information
2. Add a new Academy
3. Add curriculum
4. Manage Quality Assurance Plans
5. Get information on ordering equipment
6. Add new classes and users
7. Manage instructor lists, students, and other users
8. View reports

The Communicate section includes the ability to send e-mails and postings to groups, message boards to communicate with other Academy users, and a section to post success stories. From this page, administrators will receive information on current events and alerts. The top three events and alerts will be listed.

# Student Home Page



The student home page consists of five main sections:

1. Headlines
2. Learn
3. Career Development
4. Communicate
5. Academy and Program Information

Students have two types of Headlines that will appear on their home pages. Headlines from the Networking Academy Program would resemble something like this:

"Arizona Sweeps First Place at the 2002 SkillsUSA Internetworking Competition - US ONLY"

The message might be targeted to a more relevant group such as all Academies in Canada. Other headlines that appear on the home page will be from your Academy or your Support Academy.

Learn has information about My Classes, View Reports, and Historical Classes. My Classes displays a list of all the classes in which the student is currently enrolled. The student may select a class title to view specific class information:

1. Class Details
2. View Course Material

### 3. Exams and Grades

Career Development includes links to career news, job opportunities, certification information, and discount testing vouchers.

Communicate features a section for What Other Users are Saying. If permission is allowed by the Academy Legal Main Contact, these discussion threads allow students to communicate thoughts and ideas about courses to their Academy.

Academy and Program Information provides basic information about the Academy Program and key facts on courses available.

## Curriculum Content Page

**1.3 Navigation**  
**1.3.1 Academy Connection**  
Academy Connection pages are divided into four main sections:

- The top navigation bar
- Left navigation bar
- Right navigation bar
- Content area

The top navigation bar includes links to provide feedback, contact us, view your profile, and log out. The left navigation bar provides links to available homepages, and shows the user's view path making it easy to move between pages.

The right navigation bar gives access to Academy services. These services include: the Site Search (please note: this does not search curricular content), Academy and Class Locator, Membership Directory, Academy Marketplace, News and Announcements and a Resource Center. The Resource Center contains valuable information in the following seven areas: Curriculum Downloads, Course Catalog, Library, Tools (including searchable FTP Center and Course Specific Materials), Help, Glossary and Community.

These sections will remain fairly consistent as users move through the site. In contrast, the Content Area will vary greatly as users navigate from page to page. The majority of the necessary daily functionality is provided in this section. Examples include class information, academy information, and communication functionality.

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Academy curriculum content consists of multiple chapters that provide the major structure for the narrative of the course. The chapters themselves are further subdivided into concrete learning objectives. Learning objectives are the direct result of a job task or skills analysis. Learning objectives are then broken down into smaller, more conceptual and measurable units called target indicators.

Curriculum pages are divided into four sections:

1. Top – Header bar
2. Bottom – Navigation bar
3. Left – Media display area
4. Right – Content display area

The header bar indicates the specific course. The navigation bar allows movement between chapters and pages. It also gives the user access to various learning aids such as a glossary, index, and quiz. Media display area is used for graphics, animations, activities, and demonstrations. Content display area shows text for the selected content item.

## **Contractual Obligations**

### ***Agreements between Cisco and the Academies***

All Academies are required to follow the guidelines outlined in the Quality Assurance Plan (QAP). The QAP was developed to hold Academy sites accountable for high-quality, consistent delivery of the Cisco Networking Academy Program. The QAP provides a framework intended to help all Academy sites achieve the following quality-related goals:

1. Comply with Cisco policies for participating in the Networking Academy Program. Meet or exceed minimum standards for student success and customer satisfaction.
2. Identify factors, strategies, programs, and instructors that enhance student success and provide customer satisfaction leadership.
3. Regularly assess and monitor teaching, program operation, and educational outcomes.
4. Provide ongoing training and support to instructors in their identified areas of interest and need.
5. Use program components and resources to ensure top performance of all Academies.

Academies are responsible for providing their students with an effective learning environment. The requirements include:

1. A room of sufficient size for the number of academy instructor trainees or students being taught. The room should include space for lab activities so that individuals can participate in labs while others work online.
2. Provide sufficient and appropriate computers.
3. Provide appropriate and adequate lab equipment. The lab equipment must allow each Instructor trainee or student to manipulate the materials and to complete the lab activities in a timely manner.
4. Develop safety policies and procedures for the academy training room. Each Academy lab should have policies and procedures to ensure the safety of the participants. All Academies are responsible to comply with all federal, state and local health and safety laws applicable to the lab and classroom implementation of the program.
5. Plan for individuals who need disability access and accommodations in facilities and program elements. In general, all Academies are responsible for compliance

with all federal, state, and local equal opportunity and disability laws. U.S. section 504 and IDEA require that qualified individuals with disabilities shall not be excluded from, denied access to, or be subjected to discrimination under any program or activity that either receives federal financial assistance or is conducted by any executive agency. Although these standards are written for the United States, Academies worldwide are encouraged to meet or exceed these guidelines.

## **Procedures for starting an Academy**

### ***CATCs and Regional Academies***

To become a Regional or CATC Academy, Legal Main Contacts must establish a contractual relationship with Cisco through their Area Academy Manager. Once the legal contract is complete, a Cisco Contract Administrator enters the Academy data into the Academy Connection system.

As part of a Regional Academy's agreement to train instructors, they are also required to recruit and support 10 new Academies per curriculum within 18 months. The Academy Connection website can be used to store information on these Potential Academies.

### ***Local Academy***

There are two different ways an organization may become a Local Academy:

1. A Regional Academy may recruit a new Local Academy by supporting that Local Academy in one or more curricula.
2. A Local Academy may be actively seeking a new support relationship with a Regional Academy in order to offer a new curriculum.

In either situation, once a working relationship has been established between the two institutions and the supporting paperwork is complete, the Regional Academy Legal Main Contact or Curriculum Lead will enter the new Local Academy and its curricula plans into the Academy Connection.

Once the preliminary Academy and curriculum information has been added to the system by the Support Academy, the new Academy Legal Main Contact (LMC) needs to access the Academy Connection. The Legal Main Contact of the new Academy needs to complete the Edit Academy process flow before any classes or users can be created and before any curriculum can be downloaded.

The next step is for the Legal Main Contact to create the necessary accounts for the Academy by adding new users. These will include Instructors, Registrar, Academy Equipment Manager, Curriculum Lead, Academy Asset Manager and WPL Coordinator. The first three roles mentioned can be added to the system using the steps in the demo site activity. Note: A user may have more than one role within the Academy Connection.

Once these accounts are created:

1. Users will register their accounts and set up a profile.
2. The Academy Asset Manager will enter the assets at the Academy for curriculum delivery using their local area network

## ***Prospect Academy***

If an institution or person is interested in joining the program and the no one is able to help them at their institution, refer them to the public information pages at <http://www.cisco.com/edu/academies>. At this site, an inquiry form may be completed. The Academy Connection Support team will guide them through the process of participating in the program.

Onsite support visits are an opportunity for Academies to reflect on the current quality of training that they provide to their students. Furthermore, it provides an opportunity for Academies to work with their training Academy. Together they can develop a strategy for continuous improvement, which will provide an even greater level of quality to their students.

A support visit consists of:

1. Interviews with Administrators, Instructors, Students and Main Contacts
2. Facility Tour
3. Classroom Observation or Team teaching
4. Review of assessment and satisfaction data with the Academy team
5. Goal Setting by the Academy and the Support Visit Team

The Support Visit Team usually consists of one or more people from the training academy who will be able to offer support and assistance in goal setting. The team should have both technical and program breadth.

## **Quality**

Quality at an Academy can be determined by reviewing several different data points:

1. Results as shown by written and skills test data
2. Satisfaction collated from the results of the feedback forms
3. Feedback (both favorable and unfavorable) received during and after training
4. Support Visit Documentation
5. Complaints filed with Cisco
6. Instructor and Student Interviews
7. Annual Instructor Self Assessment and Goal Setting

Ultimately, the most important indicator of instructor quality is the achievement of students, as reflected in the student results data

The Academy Performance Action Plan (APAP) will be used when data summaries indicate that students are not receiving quality instruction. The key indicator of a need to initiate the APAP process is an unacceptable proportion of students passing each course (Student Results data).

The APAP is based on a set of Goals for Improvement identified by the academy and the training academy. For each goal, the team determines the following:

The criteria that will be used to assess whether the person has met the goal

1. The interventions that will be used to facilitate the required improvement
2. The resources that will be used or needed to carry out the interventions
3. The time line for meeting goals and completing activities

Each of these APAP elements is put in writing on a copy of the Academy Performance Action Plan Form. A sample of the APAP can be found in the QAP on the Academy Connection

## **Start-up Costs**

The following is the process for Academies in the United States to purchase lab equipment.

1. The Local Academy or supporting Regional Academy informs the Local Academy's Cisco Account Manager ("AM") that the Local Academy wishes to purchase the Academy Lab Equipment or the supporting Regional Academy informs the Local Academy's Cisco AM that the Regional Academy would like to purchase the Academy Lab Equipment on behalf of the Local Academy.
2. The AM verifies that the Local Academy is a valid Local Academy with a supporting Regional Academy (this can be done by checking with the supporting Regional Academy and by checking the Academy locator at <http://cisco.netacad.net/cnacs/pub-doc/locator.shtml> to see if the Local Academy is registered there).
3. If the purchase is allowable, the AM quotes the appropriate equipment pricing to the purchasing Academy.
4. The Academy places the order with the Cisco AM.
5. Cisco ships the Academy the Lab Equipment using its standard fulfillment practices and procedures.
6. Cisco ensures that standard SMARTnet support is ordered for CCNA and CCNP equipment.
7. The Academy receives the equipment.
8. The Cisco SMARTnet entitlement group assigns a SMARTnet contract number for the purchased equipment.
9. The SMARTnet entitlement group sends the SMARTnet welcome package to the Academy.

## **Recurring Costs**

Each Academy offering CCNA and CCNP is required to have support coverage for Academy lab equipment. In the United States this support is called SMARTnet. Support options vary around the world.

Lab equipment purchased from Cisco or donated by Cisco includes nine months of SMARTnet support. These nine months of support follow the standard Cisco 90-day warranty for new products, to total 12 months of SMARTnet support.

Subsequent years are provided at the current yearly SMARTnet prices for the particular equipment that each Academy has, minus the 30 percent educational discount. Recovering Costs from Public offerings.

## **Instructor Training**

Initial training at every level includes a registration process, training sessions (online and classroom learning), online exams, skills tests, and follow-up activities (satisfaction feedback forms, continuing education).

In order to successfully complete training, an instructor must:

1. Complete all orientation course requirements.
2. Attend all training sessions (that is, online and classroom sessions, tests, and skills tests).

During the training, instructors will be expected to do the following:

1. Actively participate in trainers' presentations.
2. Demonstrate use of best teaching practices and effective presentation techniques.
3. Understand the roles and responsibilities of the monitoring process.
4. Pass a written final exam.
5. Pass a skills-based final exam.

Trainees will rotate through group work and lab activities. They will complete online and skills-based exams, discuss Academy management issues, complete a training feedback form, and discuss post-training requirements.

Continuing education is expected of all Networking Academy instructors. At least four hours of additional training is required each year for each course an instructor has completed. This additional training requirement begins within the first 12 months of completing initial training

The Networking Academy program provides certification for Academy instructors through the Cisco Certified Academy Instructor (CCAI) program. The CCAI program, which can be viewed as a vehicle for professional development, is designed to ensure that Cisco Networking Academy instructors are proficient in the Academy curriculum they will be teaching. Additionally it enables instructors to exhibit their teaching methods

CCAI status denotes the trainee's proficiency in delivering the instruction required to support the diverse needs of a Cisco Networking Academy. All CCAI requirements must be met within 24 months from the start of training. Instructors are able to report their CCAI certification on the Course Completion and Certification Page. Providing certification information on this page, will automatically, send a request to the helpdesk requesting CCAI certification.

Individuals can meet the CCAI requirements by performing the following steps:

1. Successfully complete the Cisco Networking Academy Instructor Orientation Course.
2. Successfully complete all curriculum course training (including final exams, skills tests, and demonstration of pedagogical skills).
3. Meet the requirements for recognized industry certification.
4. Successfully teach one semester of the curriculum as verified through the online Assessment System.

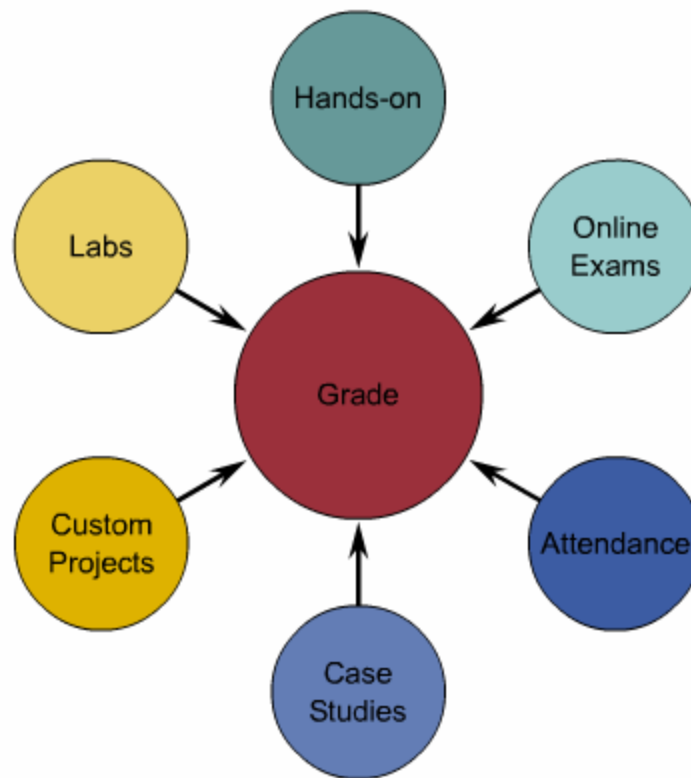
To maintain a valid CCAI certificate, instructors must keep their certifications current.

## Certification Requirements and Information

Curriculum	Certification Requirements	Additional Certification Information
CCNA	CCNA Certification	<a href="http://www.cisco.com/warp/public/10/wwtraining/certprog/index.html">http://www.cisco.com/warp/public/10/wwtraining/certprog/index.html</a>
CCNP	CCNP Certification	<a href="http://www.cisco.com/warp/public/10/wwtraining/certprog/index.html">http://www.cisco.com/warp/public/10/wwtraining/certprog/index.html</a>
IT Essentials	Course One: A+ Course Two: Server +	<a href="http://www.comptia.org/certification/">http://www.comptia.org/certification/</a>
Java		<a href="http://suned.sun.com/US/certification/">http://suned.sun.com/US/certification/</a>
UNIX	Sun System Administrator Level one	<a href="http://suned.sun.com/US/certification/register/index.html">http://suned.sun.com/US/certification/register/index.html</a>
Web Design	WOW	<a href="http://www.joinwow.org/educationalliance">http://www.joinwow.org/educationalliance</a>
Voice and Data Cabling	BICSI	<a href="http://bicsi.org/Content/Index.aspx?File=">http://bicsi.org/Content/Index.aspx?File=</a>

## Assessment

# Hands-on Teaching and Learning



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The Networking Academy Program recognizes that the appropriate use of online exams may vary with different instructors and institutions. When available, instructors should always follow locally provided guidelines regarding exam use. The Networking Academy Program does not dictate how test scores should map onto local grades. The determination of a final grade should be on a rich and varied set of circumstances and observations. With that said, the Networking Academy Program Assessment Team does have specific recommended guidelines about how exams should be used, whenever possible:

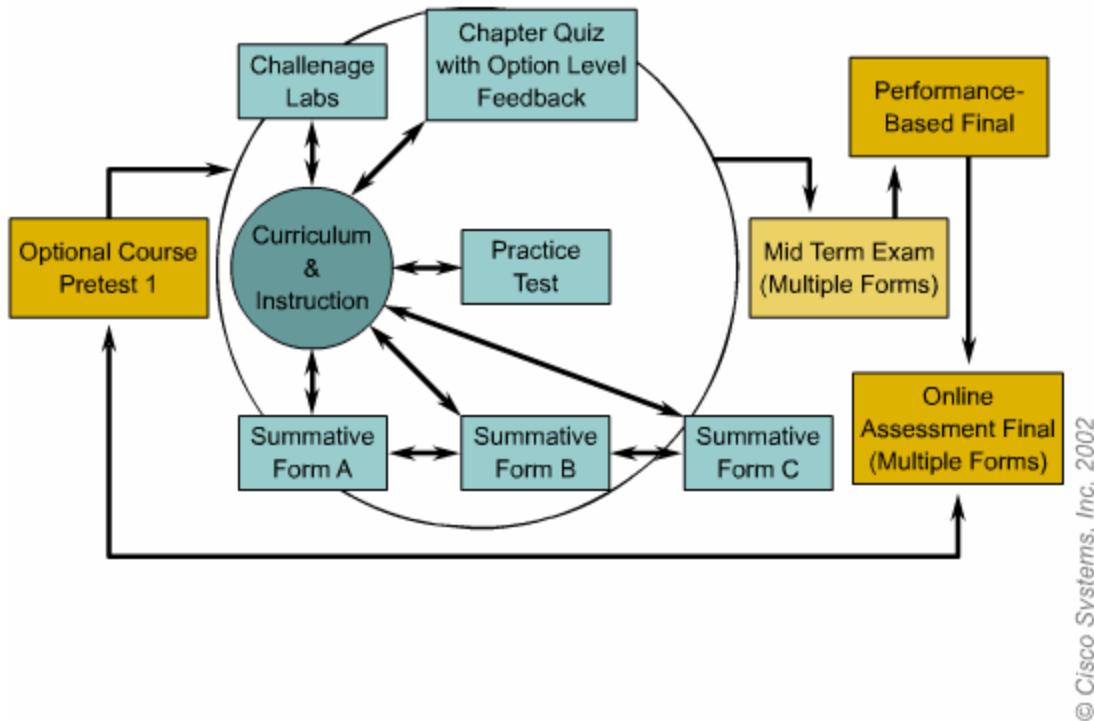
Multiple sources of information are needed:

1. The online tests, as with any test, should be considered one of several sources of information used to make decisions or assign grades.
2. A single test should never be used for important decisions (such as a course grade).
3. Instructors should consider other sources of information including performance on the hands-on skills exam and other indicators of classroom performance.
4. Hands-on performance is needed as well.
5. As currently designed, the online exams primarily provide information about a student's knowledge about networking concepts and procedures. To appropriately

assess the total set of knowledge, skills, and abilities of the student, it is essential that hands-on assessments (cabling, router configuration) be used in the classroom as well.

6. Assessments serve multiple purposes.
7. The purpose of an assessment determines the appropriate design and use. A test designed for one purpose (for example, giving instant feedback about knowledge of a specific fact) may need to be very different from a test designed for another purpose (for example, summing up knowledge from a whole course for comparison with other students). The first type of assessment is more like the quizzes in the Networking Academy Program. These quizzes are aimed at specific issues in individual chapters. In contrast, course tests cannot cover every fact or skill of the course. Since the goal is to give a broad statement about success, it is appropriate that it only uses samples from the content of the course. It is important to realize that different assessments are created with different characteristics to achieve different goals.
8. The information from the test needs to be interpreted relative to local conditions.
9. The information gained from the test generally tells the proportion of questions the student answers correctly. However, if the class did not cover a certain topic or had insufficient time to complete a lesson, the students would undoubtedly receive a lower score than they would otherwise. In such situations the instructor needs to carefully consider adjusting the grade the student is given to reflect the student's growth. The actual scores of the test cannot be edited in the grade book. The instructor may consider using the Custom Scores function in the grade book to modify grades and reflect adjustments to classroom circumstances.

# Different Types of Assessment



Several types of formal assessment opportunities are available through the online resources.

## Quizzes

Quizzes are provided within the curriculum at the end of each chapter and give students the opportunity to identify areas of strength and weakness that can be addressed. The intention is that performance on these quizzes will be used to guide further study of course material prior to taking a formalized assessment.

## Practice Exams

Practice exams are designed to give instructors and students a means to assess how much knowledge they have gained and where they could use further study prior to taking the "scored exam". The two different types of practice exams are statistically equated and non-equated.

Statistically equated practice exams are designed to be statistically equivalent to the actual exam that they are matched with. When the actual exams and the practice exams are equated with each other, both exams will have Proficiency Reports associated with them. Proficiency Reports exams are to be designed so

that they may differ slightly, but can be interpreted using a common tool. For example, the number of items and their difficulties may vary on each exam, which can make interpreting the percentage score difficult. Proficiency Reporting is used to account for differences and to provide a common way to understand student performance across exams.

Some practice exams may not be statistically equated to the actual exam students would take for grading purposes. These exams are offered so that students may get further practice on the material covered. A Proficiency Report would not accompany the results from these exams.

### ***Pretest Exams***

Pretest exams are offered at the beginning of a course and are usually statistically equated with the final exam in the course. As such, they may be used to help gauge how much of the course material students are familiar with when the course begins. If instructors choose not to use the pre-test at the beginning of the class, it may be used later in the class as another means to allow students to practice for the course final exam. As with practice exams, these exams will be accompanied with Proficiency Reports.

### ***Chapter and Course Final Exams***

Chapter exams are typically written for each chapter of material presented in the online curriculum. However, in some instances, two or more chapters may be combined together to form an exam. Chapter exams are meant to assess student progress as they move through the curriculum and are usually 20 to 30 items long.

Final exams appear at the conclusion of each course and are meant to assess student knowledge at the conclusion of instruction. These exams are typically longer, ranging from 50 to 70 items. Just as each type of assessment provided to the Academy community has different characteristics, they also have different recommended uses.

All Program materials must remain within the Academy community unless otherwise provided by Cisco in writing. This means Academies must adhere to the following processes with respect to protecting Program materials.

1. Curriculum Downloads – Program curricula must be downloaded onto the Local Area Network (LAN) server within the Academy. This server will deliver the curricula to the local classroom. The Academy must password protect program materials, including curricula. Program materials should only be accessible to authorized Academy personnel. The Academy should periodically change its passwords to ensure ongoing security of program materials. In no event shall the Academy make any program materials generally available to third parties (general public).

2. Classroom Instruction – Instructors should provide students view only classroom access to the Program materials (including curricula). Students should not be given access to the instructor online areas of the Program (includes gradebooks, exams, and so on). Instructors should adhere to the established student proctoring procedures to ensure students are not cheating on exams, making copies of the Program materials or otherwise attempting to duplicate and distribute (e-mail, CD, and so on) the Program materials outside the Academy. Instructors should take immediate steps to correct and prevent any student copyright infringement of the Program materials.
3. Assessment Server – Instructors should adhere to the Program exam procedures. Course exams should be taken online via the Academy Connection. This will allow assessment data to be stored in the system. This data is used for many purposes such as voucher qualifications.

## **Additional Resources**

1. The Academy Marketplace is an online marketplace that sells reference materials, apparel, software, lab kits, certification discount vouchers, referral services, videotapes, brochures, and hardware.
2. The course catalog provides details about courses, and allows users to download demos, access instructor and GLN orientations.
3. The Library holds the following content: Program Information, Course and Curriculum Information, Professional Development, News and Announcements.
4. Program Information in the Library displays an overview, guides, reports, policies, and guidelines.
5. Course and Curriculum in the Library provides overview content, lab and equipment information, downloads, and reports.
6. Professional Development in the Library offers information about certifications and career path, continued education, workplace learning, career and job placement opportunities.
7. News and Announcements in the Library delivers personalized information on current issues and topics.
8. The Resource Center houses an area for uploading and downloading colleague created documents for sharing purposes only.
9. The Customer Service Center provides the Knowledge Management Tool, which allows users to access immediate answers to questions.
10. If the Intelligent Knowledge Base does not have an answer, a question can be submitted by e-mail to the 24-hour Academy Connection Support Team or virtual help desk.
11. The next path for answers is to use the 24-hour call center via phone, e-mail, fax, or AOL Instant Messenger.
12. The glossary offers a collection of non curriculum terms for unfamiliar words or concepts.
13. All program material is copyrighted by Cisco Systems.

14. Academies may not make copies or duplicates of Cisco material without written permission.
15. Program materials may not be sublicensed.
16. The Networking Academy Logo is the only trademark allowed.
17. Program curriculum must be downloaded onto the network server for course delivery. All materials must be password protected and Accessible to authorized personnel only.
18. Course exams should be taken on line via the Academy Connection.
19. Instructors should provide view-only privileges to students for Program materials.
20. Upon termination, an Academy must follow all termination requirements including the return of all materials, electronic and otherwise within 10 days of the termination date

## Appendix A - Massachusetts Participating High Schools

Academy/Institution Name	Academy Type	City	Phone	Number of classes created
<a href="#">Charlestown High School</a>	Regional, Local	Charlestown	(781) 662-3177	126
<a href="#">Southeastern Massachusetts/SER-Jobs for Progress, Inc.</a>	Local	Fall River	(508) 676-1916	6
<a href="#">Madison Park Blue Hills Technical High School</a>	Regional, Local	Boston	(617) 635-8962	78
<a href="#">Barnstable High School</a>	Regional, Local	Canton	(781) 828-5800	47
<a href="#">Tech Boston Academy</a>	Local	Hyannis	(508) 790-6445	12
<a href="#">Burke High School</a>	Local	Dorchester	(617) 635-1615	12
<a href="#">CHS-bilingual Lowell High School</a>	Local	Boston	(617)635-9837	14
<a href="#">Shawsheen Valley Vocational Technical High School</a>	Local	Charlestown	(617) 635-9914	14
<a href="#">Greater Lowell Regional High School</a>	Local	Lowell	(978) 937-8954	21
<a href="#">Billerica High School</a>	Local	Billerica	(978) 667-2111	16
<a href="#">Peabody Veterans Memorial High School</a>	Local	Tyngsboro	(978)441-5300 ext. 166	1
<a href="#">North Shore Technical High School</a>	Local	Billerica	(978)436-9310	16
<a href="#">Ipswich High School</a>	Local	Peabody	(978) 531-1600 x784	20
<a href="#">Danvers High School</a>	Local	Middleton	(978) 762-0001	19
<a href="#">Salem High School</a>	Local	Ipswich	(978)356.3137 x132	0
<a href="#">Tri-County Regional Vocational Technical High School</a>	Regional, Local	Danvers	(978) 777-8925	18
<a href="#">Brighton High School</a>	Local	Salem	(978) 740-1118	11
<a href="#">Boston Latin High School</a>	Local	Franklin	(508) 528-5400	41
<a href="#">Lynn English High School</a>	Local	Boston	(617)635- 8880	6
<a href="#">Saugus Public Schools</a>	Local	Boston	(617)635-8880	6
<a href="#">Hamilton-Wenham Regional High School</a>	Local	Lynn	(781) 477-7366	26
<a href="#">Plymouth South High School</a>	Local	Saugus	(781)781.231.5000	11
<a href="#">Stoughton High School</a>	Local	Hamilton	(978) 468-5301	3
<a href="#">Joseph P Keefe Technical School</a>	Local	Plymouth	(508)224-7512 (781) 344-7001 x4308	0
	Local	Stoughton	(508) 416-2385	14
	Local	Framingham	(508) 416-2385	17

<a href="#">Montachusett Regional Vocational Technical School</a>	Local	Fitchburg	(978)345.9200	11
<a href="#">Leominster High School Center for Technical Education</a>	Local	Leominster	(978) 534-7735	10
<a href="#">Chelsea High School</a>	Local	Chelsea	(617) 889-8418	6
<a href="#">Somerville High School</a>	Local	Somerville	(617) 625-6600	10
<a href="#">Bristol Plymouth RVTHS</a>	Local	Taunton	(508) 823-5151	1
<a href="#">Worcester Vocational High School</a>	Local	Worcester	(508) 799-1971	9
<a href="#">Charles River Public Internet Center</a>	Local	Waltham	(781) 891-9559	8
<a href="#">Chicopee Comprehensive Vocational Technical High School</a>	Local	Chicopee	(413)594-3555	32
<a href="#">Dean Technical High School</a>	Local	Holyoke	(413) 534-2071	4
<a href="#">Acton-Boxborough Regional High School</a>	Local	Acton	(978) 264-4700 x3451	19
<a href="#">Franklin County Technical School</a>	Local	Turners Falls	(413) 863-9561 x116	8
<a href="#">Upper Cape Cod Regional Technical School</a>	Local	Bourne	(508) 759-7711	18
<a href="#">Pathfinder Regional Vocational Technical High School</a>	Local	Palmer	(413)283-9701	0
<a href="#">Amherst-Pelham Regional High School</a>	Local	Amherst	(413)549-9835	9
<a href="#">Pittsfield High School</a>	Local	Pittsfield	(413)499-9535	2
<a href="#">Westfield Vocational High School</a>	Local	Westfield	(413) 572-6533	15
<a href="#">South Boston High School</a>	Local	Boston	(617)635-9857	6
<a href="#">North Reading High School</a>	Local	North Reading	(978)664-7800	1
<a href="#">Public Schools of Springfield</a>	Local	Springfield	(413) 787-7125	14
<a href="#">West Roxbury High School</a>	Local	West Roxbury	(616)635-8917	0
<a href="#">Career and Technical Education Center</a>	Local	Chicopee	(413) 593-5586	23
<a href="#">Boston High School</a>	Local	Boston	(617) 635-8937	2
<a href="#">Gloucester High School</a>	Local	Gloucester	(978) 281-9865	9
<a href="#">Dennis-Yarmouth Regional High School</a>	Local	South Yarmouth	(508)398.7629	0
<a href="#">Oakmont Regional High School</a>	Local	Ashburnham	(978)978-827-1419	0
<a href="#">Melrose HS</a>	Local	Melrose	(781)979-2225	2

<a href="#">Snowden High School</a>	Local	Boston	(617)635-9989	0
<a href="#">Attleboro High School</a>	Local	Attleboro	(508) 222-5150	1
		so.		
<a href="#">D-Y Regional Schools</a>	Local	yarmouth	(508)778-7580	0
<a href="#">Methuen High School</a>	Local	Methuen	(978) 681-1307	1
<a href="#">Southeastern Regional Vocational Technical High School</a>	Local	South Easton	(508) 238-4371	5
<a href="#">Madison Park HS</a>	Local	Roxbury	(617) 635-0992	2
<a href="#">McCann Voc/Tech School</a>	Local	North Adams	(413) 663-5383	1
<a href="#">Lee High School</a>	Local	Lee	(413) 243-2781	4
<a href="#">Tri county Regional Voke</a>	Local	Franklin	(508) 528-5400	0
<a href="#">Southeastern Regional Vocational High School</a>	Local	South Easton	(508) 238-4371	0

## Appendix B Lab Bundle Costs

U.S. Cisco Networking Academy Program Lab Configurations and Pricing						
Cisco Certified Network Associate						
Last Revised - 09/15/2003						
<b>CCNA 3.0 PREMIUM BUNDLE - Version 1.4 (Pricing is Subject to Change)</b>						
<b>Routing Products</b>	<b>Description</b>	<b>Qty</b>	<b>US List</b>	<b>Ext List</b>	<b>Net Price</b>	
CISCO2620XM	Mid Performance 10/100 Ethernet Router with Cisco IOS IP	4	\$ 2,295.00	\$ 9,180.00	\$ 4,590.00	
CISCO2621XM	Dual 10/100 Ethernet Router with 2 WIC Slots & 1 NM Slot	2	\$ 3,095.00	\$ 6,190.00	\$ 3,095.00	
S26C-12212	Cisco 2600 Series IOS IP	5	\$ -	\$ -	\$ -	
S26B-12213	Cisco 2600 Series IOS IP/IPX/AT/DEC	1	\$ 400.00	\$ 400.00	\$ 200.00	
WIC-2A/S	2-Port Async/Sync Serial WAN Interface Card	6	\$ 500.00	\$ 3,000.00	\$ 1,500.00	
CAB-SS-V35MT	V.35 Cable, DTE Male to Smart Serial, 10 Feet	6	\$ 100.00	\$ 600.00	\$ 300.00	
CAB-SS-V35FC	V.35 Cable, DCE Female to Smart Serial, 10 Feet	6	\$ 100.00	\$ 600.00	\$ 300.00	
<b>SUB-TOTAL</b>			<b>\$ 6,490.00</b>	<b>\$ 19,970.00</b>	<b>\$ 9,985.00</b>	
<b>DISCOUNT</b>					50.0%	
<b>Switching Products</b>	<b>Description</b>	<b>Qty</b>	<b>US List</b>	<b>Ext List</b>	<b>Net Price</b>	
WS-C2950T-24	24 10/100 ports w/ 2 10/100/1000BASE-T ports, Enhanced Image	3	\$ 1,295.00	\$ 3,885.00	\$ 1,942.50	
<b>SUB-TOTAL</b>			<b>\$ 1,295.00</b>	<b>\$ 3,885.00</b>	<b>\$ 1,942.50</b>	
<b>DISCOUNT</b>					50.0%	
<b>Support Products</b>	<b>Description</b>	<b>Qty</b>	<b>US List</b>	<b>Ext List</b>	<b>Net Price</b>	
CON-SNT-26XX	SMARTnet 8x5xNBD for Cisco2620XM	4	\$ 392.00	\$ 1,568.00	\$ 1,097.60	
CON-SNT-2621XM	SMARTnet 8x5xNBD for Cisco2621XM	2	\$ 392.00	\$ 784.00	\$ 548.80	
CON-SNT-C2950T24	8x5xNBD Svc, C2950 24 10/100 ports 2 10/100/1000BASE-T	3	\$ 192.00	\$ 576.00	\$ 403.20	
<b>SUB-TOTAL</b>			<b>\$ 976.00</b>	<b>\$ 2,928.00</b>	<b>\$ 2,049.60</b>	
<b>DISCOUNT</b>					30.0%	
<b>GRAND TOTAL (incl. 1 year of SMARTnet)</b>					<b>Net Price</b>	
					<b>\$ 13,977.10</b>	
<b>GRAND TOTAL (incl. 3 years of SMARTnet)</b>					<b>Net Price</b>	
					<b>\$ 18,076.30</b>	
<b>Annotations</b>						
The CCNA Premium Bundle is designed to provide the most capability and flexibility. The IOS images on premium bundles have traditionally required IP/IPX/AT PLUS T images.						
26xx Cisco Access Router is a Cisco premium (fastest, most versatile, rack-mountable)						
Discontinuance of the previous, smaller IOS image used by Academies necessitates an increase in memory to support a somewhat larger but comparable IOS image.						
In order to be able to complete the 802.1q trunking labs you will need to upgrade at least one of your 2600XMs to the IP/IPX/AT/DEC feature set S26B-12213						
Memory is the primary contributing factor to price increases. The minimum of 16 MB Flash and 48 MB DRAM in the 26xx provides premium functionality to Academies worldwide and investment protection going forward.						

## U.S. Cisco Networking Academy Program Lab Configurations and Pricing

Cisco Certified Network Professional

Last Revised - 9/12/2003

### CCNP 3.0 - STANDARD ROUTER BUNDLE - Version 1.1 (Pricing is Subject to Change)

Routing Products	Description	Qty	US List	Ext List	Net Price
CISCO2621XM	Dual 10/100 Ethernet Router with 2 WIC Slots & 1 NM Slot	3	\$ 3,095.00	\$ 9,285.00	\$ 4,642.50
S26AK8-12212	Cisco 2600 Series IOS ENTERPRISE PLUS IPSEC 56	3	\$ 1,800.00	\$ 5,400.00	\$ 2,700.00
MEM2600XM-32U64D	32 to 64MB DRAM factory upgrade	3	\$ 950.00	\$ 2,850.00	\$ 1,425.00
WIC-2T	2-Port Serial WAN Interface Card	3	\$ 700.00	\$ 2,100.00	\$ 1,050.00
NM-1CT1=	1-Port Channelized T1/ISDN-PRI Network Module	1	\$ 2,600.00	\$ 2,600.00	\$ 1,300.00
CISCO2620XM	Mid Performance 10/100 Ethernet Router with Cisco IOS IP	6	\$ 2,295.00	\$ 13,770.00	\$ 6,885.00
S26C-12212	Cisco 2600 Series IOS IP	6	\$ -	\$ -	\$ -
WIC-2A/S	2-Port Async/Sync Serial WAN Interface Card	7	\$ 500.00	\$ 3,500.00	\$ 1,750.00
WIC-1B-U=	1-Port ISDN with NT-1 WAN Interface Card	4	\$ 700.00	\$ 2,800.00	\$ 1,400.00
CAB-SS-V35MT=	V.35 Cable, DTE Male to Smart Serial, 10 Feet	12	\$ 100.00	\$ 1,200.00	\$ 600.00
CAB-SS-V35FC=	V.35 Cable, DCE Female to Smart Serial, 10 Feet	12	\$ 100.00	\$ 1,200.00	\$ 600.00
CAB-AC	Power Cord, 110V	9	\$ -	\$ -	\$ -
CAB-SS-232MT=	RS-232 Cable, DTE to Smart Serial, 10 Feet	2	\$ 100.00	\$ 200.00	\$ 100.00
<b>SUB-TOTAL</b>			<b>\$ 12,940.00</b>	<b>\$ 44,905.00</b>	<b>\$ 22,452.50</b>

DISCOUNT 50.0%

Support Products	Description	Qty	US List	Ext List	Net Price
CON-SNT-26xx	SMARTnet 8x5xNBD for Cisco26XX	9	\$ 392.00	\$ 3,528.00	\$ 2,469.60
<b>SUB-TOTAL</b>			<b>\$ 392.00</b>	<b>\$ 3,528.00</b>	<b>\$ 2,469.60</b>

DISCOUNT 30.0%

GRAND TOTAL -- Cisco Equipment (incl. 1 year of SMARTnet)		US List	Ext List	Net Price
		\$ 13,332.00	\$ 48,433.00	\$ 24,922.10
GRAND TOTAL -- Cisco Equipment (incl. 3 years of SMARTnet)		US List	Ext List	Net Price
		\$ 17,101.00	\$ 58,474.00	\$ 31,950.80

Description	Qty	Net Price
CISCOWORKS-N-4XYR	Cisco Works and Cisco Secure Software Subscription	\$ 495.00

Adtran WAN Emulation Kit	Description	Qty	Net Price
ATLAS550-CCNP	CCNP Bundle	1	\$ 4,600.00

<b>GRAND TOTAL (incl. 1 year of SMARTnet)</b>		<b>\$ 30,017.10</b>
<b>GRAND TOTAL (incl. 3 years of SMARTnet)</b>		<b>\$ 37,045.80</b>

### Annotations

Memory Capacity is larger in the new bundle to protect the Academies' investment. Although more memory is not required at this time to support the minimum IOS image for the current CCNP version, it enables Academies to better leverage their overall lab investment going forward.

The new IOS image is actually more capable and anticipates new technologies that could be included in future CCNP and related curriculum.

The CCNP Router bundle includes the optional 804 router. Please deduct from the total if not interested.

To order the CiscoWorks and CiscoSecure Software Subscription, please call the Cisco Company Store Customer Service Helpline at 1 866 295 1101 (U.S. and Canada) or 952 646 5379 (outside the U.S.). Please state that you are a Networking Academy customer.

To order Adtran equipment via the Academy Store:

- Log onto <http://cisco.netacad.net>
- Select the Academy Marketplace from the right-hand navigation
- Select Hardware and Software
- Select Adtran
- Select Order Now
- Select CCNP WAN EMULATION KIT