

Application Date
June, 2011



NEW CREDIT PROGRAM

Cisco CCNA Discovery	Valerie Rodgers
PROPOSED PROGRAM TITLE	CONTACT PERSON
Imperial Valley College	Business Department Chair
COLLEGE	TITLE
Imperial Community College	760-355-6439
DISTRICT	PHONE NUMBER
August 2012	valerie.rodgers@imperial.edu
ROJECTED PROGRAM START DATE	E-MAIL ADDRESS
GOAL(S) OF PROGRAM:	
<input checked="" type="checkbox"/> CAREER TECHNICAL EDUCATION (CTE) <input checked="" type="checkbox"/> TRANSFER <input checked="" type="checkbox"/> OTHER	
TYPE OF PROGRAM (SELECT ONLY ONE):	
<input type="checkbox"/> A.A. DEGREE <input checked="" type="checkbox"/> A.S. DEGREE <input type="checkbox"/> AA-T DEGREE (for transfer)* <input type="checkbox"/> AS-T DEGREE (for transfer)*	
CERTIFICATE OF ACHIEVEMENT: <input checked="" type="checkbox"/> 18+ semester (or 27+ quarter) units <input type="checkbox"/> 12-18 semester (or 18-27 quarter) units	

* The AA-T and AS-T degrees fulfill the requirements of California Education Code sections 66745-66749, also known as the Student Transfer Achievement Reform Act. See special instructions provided [here](#).

PLANNING SUMMARY

Recommended T.O.P. Code	0708	Estimated FTE Faculty Workload	2.3
Units for Degree Major or Area of Emphasis	22-25	Number of New Faculty Positions	2 part time .6 FTE each
Total Units for Degree	60	Est. Cost, New Equipment	0
Required Units-Certificate	22-25	Cost of New/Remodeled Facility	0
Projected Annual Completers	3	Est. Cost, Library Acquisitions	0
Projected Net Annual Labor Demand (CTE)	14	When will this program undergo review as part of college's Program Evaluation Plan?	Month August Year 2013

Attachments required for this form:

- *Required signature page -- Please retain the original signature page for your records and upload a scan of the signature page as an attachment.*
- *Development Criteria Narrative & Documentation (with all attachments):*
 - *Labor/Job Market DATA (CTE only)*
See #8

LMI:

http://www.labormarketinfo.edd.ca.gov/cgi/databrowsing/localAreaProfileQSResults.asp?selecte_darea=Imperial+County&selectedindex=13&menuChoice=localAreaPro&state=true&geogArea=0604000025&countyName=

Centers of Excellence: <http://www.coecc.net/>

- *Employer Survey (CTE only) See #9*
- *Minutes of Key Meetings (See Attached)*
- *Outlines of Record for all Required Courses (See Attached)*
- *Transfer Documentation (if applicable) (n/a)*

DEVELOPMENT CRITERIA NARRATIVE & DOCUMENTATION

Attach a document that describes the development of the proposed program, addressing the five criteria as listed below. **Number** the sections of the narrative to match the lists below. If appropriate, you may note that a section is “not applicable” but **do not re-number** the sections. Provide documentation in the form of attachments as indicated.

Criteria A. Appropriateness to Mission

1. Statement of Program Goals and Objectives
2. Catalog Description
3. Program Requirements
4. Background and Rationale

Criteria B. Need

5. Enrollment and Completer Projections
6. Place of Program in Curriculum/Similar Programs
7. Similar Programs at Other Colleges in Service Area
8. Labor Market Information & Analysis (CTE only)
9. Employer Survey (CTE only)
10. Explanation of Employer Relationship (CTE only)
11. List of Members of Advisory Committee (CTE only)
12. Recommendations of Advisory Committee (CTE only)

Attachment: Labor / Job Market Data (CTE only)

Attachment: Employer Survey (CTE only)

Attachment: Minutes of Key Meetings

Criteria C. Curriculum Standards

13. Display of Proposed Sequence
14. Transfer Documentation (if applicable)

Attachment: Outlines of Record for Required Courses should be separately attached to each course

Attachment: Transfer Documentation (if applicable)

Criteria D. Adequate Resources

15. Library and/or Learning Resources Plan
16. Facilities and Equipment Plan
17. Financial Support Plan
18. Faculty Qualifications and Availability

Criteria E. Compliance

19. Based on model curriculum (if applicable)
20. Licensing or Accreditation Standards
21. Student Selection and Fees

REQUIRED SIGNATURES

Proposed Program Title Cisco CCNA Discovery College Imperial Valley College

LIBRARY AND LEARNING RESOURCES

Library and learning resources needed to fulfill the objectives of the program are currently available or are adequately budgeted for.

_____ DATE _____ SIGNATURE, CHIEF LIBRARIAN/LEARNING RESOURCES MANAGER Taylor Ruhl
TYPED OR PRINTED NAME

CAREER TECHNICAL EDUCATION ONLY:

Program fulfills the requirements of employers in the occupation, provides students with appropriate occupational competencies, and meets any relevant professional or licensing standards.

_____ DATE _____ SIGNATURE, ADMINISTRATOR OF CTE Efrain Silva
TYPED OR PRINTED NAME

_____ DATE _____ SIGNATURE, CHAIR, CTE ADVISORY COMMITTEE Michael Carr
TYPED OR PRINTED NAME

Program was recommended for approval by Regional Occupational Consortium on _____ (date).

_____ DATE _____ SIGNATURE, CHAIR, REGIONAL CONSORTIUM _____
TYPED OR PRINTED NAME

LOCAL CURRICULUM APPROVAL

Program and courses within the program have been approved by the curriculum committee and instructional administration, and satisfy all applicable requirements of Title 5 regulations.

_____ DATE _____ SIGNATURE, CHAIR, CURRICULUM COMMITTEE _____
TYPED OR PRINTED NAME

_____ DATE _____ SIGNATURE, ARTICULATION OFFICER _____
TYPED OR PRINTED NAME

_____ DATE _____ SIGNATURE, CHIEF INSTRUCTIONAL OFFICER _____
TYPED OR PRINTED NAME

_____ DATE _____ SIGNATURE, PRESIDENT, ACADEMIC SENATE _____
TYPED OR PRINTED NAME

COLLEGE PRESIDENT

All provisions of Title 5, Chapter 6 have been considered. The college is prepared to support establishment and maintenance of the proposed instructional program.

_____ DATE _____ SIGNATURE, PRESIDENT OF THE COLLEGE _____
TYPED OR PRINTED NAME

DISTRICT APPROVAL

On _____ (date), the governing board of the _____ District approved the instructional program attached to this application.

_____ DATE _____ SIGNATURE, SUPERINTENDENT/CHANCELLOR OF DISTRICT _____
TYPED OR PRINTED NAME

Please retain the original signature page for your records and upload a scan of the signature page as an attachment.

Criteria A. Appropriateness to Mission

1. Statement of Program Goals and Objectives

This program meets the CCC mission as it is vocational instruction at the lower division level for both younger and older students, including those persons returning to school.

The Cisco CCNA Discovery program helps prepare students for entry-level career opportunities, continuing education, and globally-recognized Cisco certifications. It provides the experience needed to help meet the growing demand for ICT professionals. The Internet is changing life as we know it—bringing new economic and social opportunities to communities throughout the world, and increasing the global demand for information and communication technology (ICT) skills. Innovations such as social networking, cloud computing, e-commerce, web conferencing, and desktop virtualization are changing the way we live, work, play, and learn. These capabilities are all powered by networks, and organizations around the world are experiencing a shortage of qualified ICT candidates to design, install, and manage these networks.

CCNA Discovery provides general networking theory, practical experience, and opportunities for career exploration and soft-skills development. The curriculum emphasizes critical thinking, problem solving, collaboration, and the practical application of skills in a real world environment. All courses include embedded, highly interactive activities that stimulate learning and improve knowledge retention, hands-on labs, simulation-based learning activities, and online assessments.

The goals and objectives of CCNA Discovery are as follows:

- Help students recognize the significant impact of networking on their lives
- Teach students how to build and support a home or small business network with wireless equipment
- Instill a sense of awe in students and encourage them to learn more about how things work and to pursue careers in networking
- Prepare students for entry-level jobs in the industry by employing interactive and engaging instructional approaches that help them understand general theory and gain practical experience
- Teach students the fundamental concepts of networking
- Provide opportunities for extensive hands-on interaction with PC and networking equipment to prepare students for careers and certification exams
- Establish the relevancy of networking in our everyday lives

Upon completion of the courses, the successful student will have acquired new skills, knowledge, and/or attitudes as demonstrated by being able to perform the following tasks:

IT Essentials Course

- Perform advanced installation of a desktop computer tower; select components based on customer needs and perform preventive maintenance and troubleshooting
- Describe, remove, and replace select components of a printer/scanner; perform preventive maintenance and troubleshooting
- Describe and install a network; upgrade components based on customer needs and perform preventive maintenance and troubleshooting
- Upgrade security components based on customer needs and perform preventive maintenance and troubleshooting.
- Apply good communication skills and professional behavior while working with customers.

Networking for Home and Small Businesses Course

- Set up a personal computer system, including the operating system, interface cards, and peripheral devices
- Plan and install a home or small business network and connect it to the Internet
- Verify and troubleshoot network and Internet connectivity

Quick Reference for CCC-501: APPROVAL–NEW CREDIT PROGRAM

- Share resources such as files and printers among multiple computers
- Recognize and mitigate security threats to a home network
- Configure and verify common Internet applications
- Configure basic IP services through a GUI

Working at a Small-to-Medium Business or ISP Course

- Describe the structure of the Internet and how Internet communications occur between hosts
- Install, configure, and troubleshoot Cisco IOS® devices for Internet and server connectivity
- Plan a basic wired infrastructure to support network traffic
- Implement basic WAN connectivity using Telco services
- Demonstrate proper disaster recovery procedures and perform server backups
- Monitor network performance and isolate failures
- Troubleshoot problems using an organized, layered procedure
- Describe the OSI model and the process of encapsulation

Introducing Routing and Switching in the Enterprise Course

- Implement a LAN for an approved network design
- Configure a switch with VLANs and inter-switch communication
- Implement access lists to permit or deny specified traffic
- Implement WAN links
- Configure routing protocols on Cisco devices
- Perform LAN, WAN, and VLAN troubleshooting using a structured methodology and the OSI model

Designing and Supporting Computer Networks Course

- Gather customer requirements
- Design a simple Internetwork using Cisco technology
- Design an IP addressing scheme to meet LAN requirements
- Create an equipment list to meet LAN design requirements
- Create and present a proposal to a customer
- Install and configure a prototype Internetwork
- Obtain and upgrade Cisco IOS Software in Cisco devices

Work Experience Courses

- Develop skills in areas of job search, employer contact, resume writing, and application and interviewing
- Develop job-holding practices.
- Complete at least 63 hours of supervised employment extending classroom-based learning at an on-the-job learning site that relates to the program.

2. Catalog Description

The Cisco CCNA Discovery program provides general networking theory, practical experience, soft-skills development, and opportunities for career exploration. It teaches networking based on application, covering networking concepts within the context of network environments students may encounter in their daily lives -- from small office and home office (SOHO) networking to more complex enterprise and theoretical networking models later in the curriculum. The program prepares students for two different Cisco certification exams. After completing the program, students will be prepared to take the industry-standard Cisco CCNA certification exam. In addition, students may opt to take the CCENT certification as a first step toward earning the CCNA certification. CCENT certifies the practical skills required for entry-level information and communication technology skills and demonstrates a student's aptitude and competence to work in an environment that features Cisco networking devices and software.

The Cisco CCNA Discovery curriculum is primarily designed for students who are seeking entry-level information and communication technology skills for positions such as network administrator, network engineer, network technician, computer technicians, network installer, and help desk technician.

3. Program Requirements

Twenty-two to twenty-five (22 - 25) units required for the major and/or certificate

Required courses for the major and/or certificate

CIS 160 CISCO IT Essentials: Hardware and Software (4)
CIS 162 Cisco CCNA Discovery 1: Networking for Home and Small Businesses (4)
CIS 163 Cisco CCNA Discovery 2: Working at a Small-to-Medium Bus or ISP (4)
CIS 164 Cisco CCNA Discovery 3: Intro Routing/Switching in the Enterprise (4)
CIS 165 Cisco CCNA Discovery 4: Designing & Supporting Computer Networks (4)
WE 201 Employment Readiness (1)
WE 220 Internship (1 – 4)

Total Units 22 - 25

To graduate with an Associate of Science Degree, students must take the major courses and the following institutional/general education requirements:

Institutional Requirements:

- Sixty degree applicable units with a grade point average of 2.0 or better for all degree applicable college work
- American institutions (American government and politics, American history) 6 units
- Health education, 3 units
- Physical education (lifetime exercise science and one activity course) 3 units
- Math competency
- Reading Competency

General Education Requirements in the following areas:

- Language and rationality, 6 units
- Natural science, 3 units
- Humanities, 3 units
- Social and behavioral science, 3 units
- Elective, 3 units

4. Background and Rationale

The CIS department has been in the process of planning the improvement and expansion of the CIS Department curriculum for many years. The goal of securing funds to designate and equip a network lab in order to develop a networking program was written into the 2005 CIS Program Review. The 2010 comprehensive program review completed by the CIS department reiterated that goal and specifically indicated we should move forward with the Cisco curriculum.

On January 15, 2010, administrators and CIS faculty participated in a “Web - Presentation” regarding the possibility of hosting a CISCO Network Training program on campus. On February 4, we met face-to-face with the Cisco Networking Academy team. The District made a commitment to go forward with the program. After that meeting, we

- Identified a lead instructor
- Worked with staff at the new San Diego Community College Cisco Regional Academy which provides instructor training and support to begin the process of meeting requirements to become a Cisco school
- Began the process of securing space and funds for the CCNA equipment
- Visited other colleges with Cisco training .

The concept for a Cisco program was approved by our CIS Advisory Committee in November 2010. The District allocated space for the program and through Perkins funding the infrastructure was developed to prepare the classroom/labs and purchase equipment. The Cisco networking lab was completed in January 2011. The rooms that were remodeled can be used for other classes as well. Perkins funding was approved for instructor training, and the Curriculum Lead attended training for the Cisco IT Essentials course. Thus, we are at the point of curriculum and program approval.

Imperial Valley is an area with some of the highest unemployment and poverty rates in California. The new Cisco CCNA Discovery program will offer much needed training that will give students an opportunity to work in information technology not only in Imperial County but also in the region. No other agency in Imperial County provides this training. Cisco is the world standard for networking; and once students have Cisco certification, they will have the skill to work on any networking configuration.

Criteria B. Need

5. Enrollment and Completer Projections

Number of sections of core courses to be offered annually: 7 sections Year 1; 8 sections Year 2; 8 section Year 3

Course #	Title	Projected Sections Year 1	Projected Sections Year 2	Projected Sections Year 3
CIS 160	IT Essentials	2	2	2
CIS 162	Cisco CCNA Discovery 1: Networking for Home and Small Businesses	1		1
CIS 163	Cisco CCNA Discovery 2: Working at a Small-to-Medium Bus or ISP		1	
CIS 164	Cisco CCNA Discovery 3: Introducing Routing and Switching in the Enterprise		1	
CIS 165	Cisco CCNA Discovery 4: Designing and Supporting Computer Networks			1
WE 201	Employment Readiness	2	2	2
WE 220	Internship	2	2	2

Projected annual enrollment: 96

Number of estimated completers per year when program is fully established are 5; and at the end of the fifth year, 15.

6. Place of Program in Curriculum/Similar Programs

There are no similar programs offered at Imperial Valley College. Within the Science, Math, and Engineering Division our program inventory includes approval for a Computer Science Transfer program which provides lower division coursework for advanced degrees in the area of science. Within the Economic and Workforce Development Division, the Computer Information Systems Department includes approval for a CIS Transfer program which also provides the lower division coursework for advanced degrees in the area of business. The inventory also includes the Multimedia and Web Development program, which is an interdisciplinary program that combines technical knowledge with design, communication, and problem solving skills. Students learn how to process information and then make this information available to audiences via electronic media. The new Cisco CCNA Discovery program does not modify or remove any existing program; it improves and expands the CIS Department and provides students the experience needed to help meet the growing demand for skills related to networking. It also gives them the opportunity for career exploration and soft-skills development.

The courses required within the new program are being offered with existing faculty, facilities, and equipment. The facilities and equipment will be shared by other programs in the CIS Department including CIS transfer and Web development courses. Other programs on campus will also use the facilities to offer courses when the computer classroom is not in use for the Cisco program. In addition, it will be available as a training facility for faculty and staff when not in use as a classroom.

7. Similar Programs at Other Colleges in Service Area

Imperial Valley College is the only community college serving the Imperial County. No other community college is within commuting distance; the closest is College of the Desert, which is 90 miles away. San Diego State University, Imperial Valley Campus, offers upper division coursework only.

8. Labor Market Information & Analysis (CTE only)

LMI: According to LMI information as of February, 2011, for the El Centro Metropolitan Statistical Area (Imperial County), computer and mathematical occupations are projected to have an average of 5 new jobs and 9 replacement jobs annually from 2008 -2018, an increase of 11%. The link is below:
<http://www.labormarketinfo.edd.ca.gov/cgi/databrowsing/localAreaProfileQSResults.asp?selectedarea=Imperial+County&selectedindex=13&menuChoice=localAreaPro&state=true&geogArea=0604000025&countyName=>

The median annual wages Computer and Mathematical Occupations is listed as \$61,967. In a high poverty area, training for a career in this occupation area is a much needed opportunity. The first step for students will be available with the implementation of this program.

Centers of Excellence: More relevant than the LMI information are studies done by the Centers of Excellence (COE). In their Environmental Scan for Information and Communications Technologies (ICT), Phase One Overview, September 2009, San Diego-Imperial Region, San Francisco Bay Region, and Orange County Region at <http://www.coecc.net/> : “The Bureau of Labor Statistics (BLS) estimates that employment in computer systems design and related services will grow nearly 40% and account for almost one-fourth of all new jobs created over the next five years. The scan also indicted that the Computer and Information Technology labor market information has not been adequately studied, despite its importance to the California economy. The report states, “Several factors contribute to the lack of data, including rapidly changing technologies, inconsistent use of occupational titles, wide distribution of ICT occupations across industries and companies, and lack of widespread acceptance of the term ICT.” According to the scan, “ICT encompasses all rapidly emerging, evolving and converging computer, software, networking, telecommunications, Internet, programming and information systems technologies.

Employment in ICT occupations spans across industries and firms of all sizes. ICT represents the cutting edge of California's innovation economy." The COE report also states that traditional labor market analysis for ICT occupations across industries is a complicated endeavor because of the factors listed above. Industry representatives indicated that workforce studies which are focused on ICT related job functions, instead of job titles, would be more valuable. The COE, working with the Mid-Pacific ICT Center and its network of industry and community advisors, developed a set of ICT-related job functions as the framework that will guide future research efforts. Training for the Cisco CCNA Discovery program at Imperial Valley College specifically falls within the functions listed below:

Function and Description:

- Deploy and Support End User ICT Devices: Setting up users with the ICT devices they use (computers, phones, PDAs, cell phones, printers, etc.)
- Deploy and Support 3rd Party ICT Applications: Setting up organizations and users with the 3rd party applications they use on their computing and communications devices (Computer operating systems, MS Office, email, database programs, CRM, call center, etc.)
- Deploy and Support Networks and Systems for Communications: Setting up and managing infrastructure and systems for communication between people and devices.
- Deploy and Support Data Storage Systems: Setting up systems to store, backup and restore electronic data, including disaster recovery, SANs, NAS, iSCSI, etc.
- Secure ICT Devices, Systems and Networks: Securing devices, spaces, websites, networks, storage and other ICT systems
- ICT Wiring and Physical Plant: Installing and managing the physical infrastructure over which communications take place, - wires, fiber, poles, towers, conduits, etc.
- Programming and Software Development: Designing and writing programs for computing and communications devices. ICT Technical Writing: Documenting ICT related systems and processes and writing about activities and developments in the ICT field.
- ICT-Related Technical Sales: Developing customer relationships and solutions.
- ICT Systems Analysis and Design: Collecting requirements, understanding solution elements and their constraints and designing systems and processes to meet needs.

In Phase Two: Industry Outlook for Educators, September 2010, the Centers for Excellence conducted an environmental scan for Information and Communications Technologies in California that provides analysis of the size and scope of the ICT sector in California and its potential for growth. More than 600 employers from across the state were surveyed by the Centers of Excellence to collect primary data about ICT in the workplace. In addition, hundreds of research hours were allocated to the collection and analysis of secondary data for this report. The research indicates that ICT is a significant sector in the California economy. Findings include:

- ICT occupations and firms are expected to outpace the general economy in two-year job growth
- ICT firms employ approximately 6% of all private sector workers in California (the 12th largest by sector)
- ICT firms pay over 10% of all private sector wages (3rd in state)
- ICT firms had sales revenues of \$173 billion (6th largest in state)
- ICT occupations across firms represent approximately 5% of all workers in the state (ranking ICT 8th among all occupational classifications)
- ICT occupations pay a median wage of over \$35 per hour, which is 41% higher than the median for all jobs in the state
- A majority of employers across sectors noted that ICT is strategically important to their organizations and that ICT is growing in importance for their employees.

The report states that these findings illustrate that by using the ICT framework to collect economic and labor market data, ICT is larger and more strategically important to California than previously realized. Though people intuitively know that ICT is an important driver of the state's economy, the data indicate that ICT is a top-ten sector for its industries' sales revenue, wages, and employment. ICT is also a top-ten sector for its

occupational size and wages paid across sectors in the state. Employers also noted their reliance on ICT and desire for more structure in ICT strategic planning, education, and training.

A major finding of the primary research conducted for this report is that ICT firms in California anticipate 8.5% employment growth over the next two years – despite flat to negative job growth anticipated for non-ICT firms. However, even though non-ICT firms expect flat job growth, they expect a 3.7% increase in ICT jobs at their firms over the same period.

This report clearly indicates that there are strong ICT job and career prospects for students with advanced training and degrees and for **applied technologists without advanced degrees**. In addition, about half of the employers surveyed reported difficulty recruiting ICT workers with the appropriate skills.

The report states that California’s community colleges should use the information in this report to develop and implement strategic plans to align education and training programs to the ICT framework in order to prepare students for employment in these vibrant fields. Colleges should seek assistance from their local employer community and from organizations such as MPICT to assist them in developing appropriate programs to meet the needs of the 21st century ICT workforce

Cisco: As we have progressed in the development of the Cisco CCNA Discovery program, we have been working with Cisco representatives. They provided us with the information below, including the California ICT Job Projections for California, Cisco Networking Academy Impact information, and the California Cisco Academy Map. The ICT job projection information is dated May, 2009, and comes from the California Employment Development Department, Bureau of Labor Statistics. It is projected that Network systems and Data Communications Analysts will increase 50% from 2008 to 2018. All other ICT occupations also have a projected increase. The second chart shows the impact of Cisco Networking Academies in California and the third chart shows Cisco active academies throughout California.



ICT Job Projections: California

California Occupation Projections	Employment		Change		Average Annual Openings	Occupational Employment as of May 2009 ²
	2008	2018	#	%		
Computer Support Specialists	64,100	71,500	7,400	11.5	2,510	60,730
Computer Systems Analysts	59,700	68,300	8,600	14.4	2,140	54,560
Network and Computer Systems Administrators	37,800	44,500	6,700	17.7	1,300	36,040
Network Systems and Data Communications Analysts	35,000	52,600	17,600	50.3	2,390	27,140
Computer and Information Systems Managers	41,200	47,200	6,000	14.6	1,270	38,500

Source: California Employment Development Department, <http://www.labormarketinfo.edd.ca.gov/?pageid=145>
² Department of Labor, Bureau of Labor Statistics, May 2009 State Occupational Employment and Wage Estimates, <http://stat.bls.gov/oes/current/oesrcst.htm>



Cisco Networking Academy Impact: California

Students	15,836
Female students	13%
Distinct cumulative students (successfully completing at least one course)	130,598
Instructors	297
Academies	168

Education level (students/academies at more than one education level are counted proportionately)	Secondary Schools	Community Colleges	Universities	Other ²
Students	25%	59%	7%	10%
Academies	50%	37%	7%	6%

Curricula ³ (students/academies that take/teach multiple curricula are counted more than once)	ITE	CCNA 1, 2	CCNA 3, 4	Advanced Technologies / Other ⁴
Students	29%	72%	23%	6%
Academies	50%	67%	50%	21%

In-kind contribution value ⁵ (est. cumulative value to academies, including donations and discounts)	\$ 47,684,159
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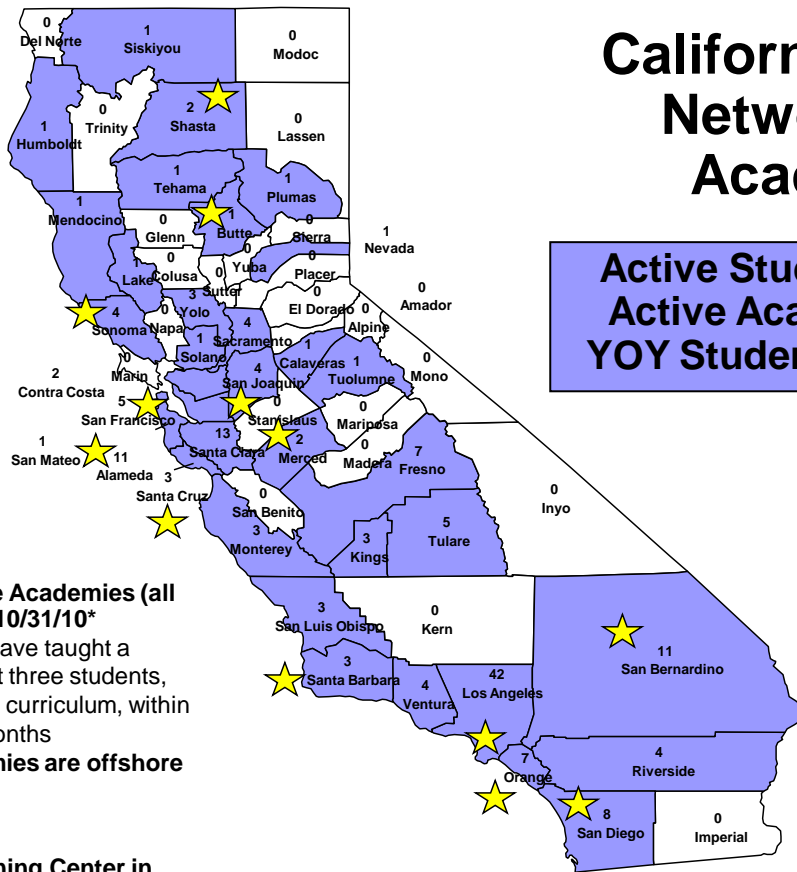
¹Source: Quarterly Metrics, October 2010

²Includes community-based organizations, middle schools, military, nontraditional educational settings, and post-graduate institutions

³Source: MRE report 4415P51, November 2010

⁴Includes CCNA Security, CCNP, Security, Wireless, IP Telephony, Java, UNIX and Panduit Network Infrastructure Essentials (PNIE)

⁵Source: MRE report 4470, November 2010



California Cisco Networking Academy

Active Students 15,836
Active Academies 168
YOY Student Growth 7%

California Active Academies (all curricula) as of 10/31/10*
 Academies that have taught a class with at least three students, or adopted a new curriculum, within the last twelve months
NOTE: 3 academies are offshore (Japan)

★ Designates Training Center in County

Source: Quarterly Metrics, October 2010

Wall Street Journal: In addition, technology-job growth and increased IT hiring is helping California deal with its budget deficit. About 91,000 jobs were added in the first quarter of this year, which beats last year's overall number, and the employment trend could wipe \$6 billion from the state's \$15 billion deficit, a state official estimated. Full article in the Wall Street Journal here:

http://online.wsj.com/article/SB10001424052748703864204576311373667322428.html?mod=dist_smartbrief

9. Employer Survey (CTE only)

When the Cisco CCNA Discovery program was being developed, several employers were contacted, including the City of El Centro, the Imperial Irrigation District, Imperial County Office of Education, and the County of Imperial. Department faculty also worked with the Information Technology Department staff at Imperial Valley College. These public agencies are all large employers in Imperial County. In addition, the program had the approval of the CIS Advisory Committee. These employers believed students with these skills would be of value in their organizations as well as in Imperial County as a whole. They indicated that they found it very difficult to find applicants with these types of skills, and students with these skills would have an edge when applying for jobs. They also indicated the program would be valuable to current employees who wish to upgrade their skills. Finally, they indicated that currently agencies must send employees out of the county for this type of training.

Based on our discussions with employers in Imperial County, we believe it is a contribution to our area to provide classes of this type. Because we are the only California Community College within 100 miles, it is unrealistic for our students to travel to other community colleges to get the networking skills that they need. Without access, our students will get left out. For example, currently in Imperial County, the following positions are being advertised:

Best Buy, Geek Squad Counter Intelligence Agent - Computer Tech Job
Time Warner: Field Service Technician Trainee, computer networking coursework preferred
Department of Corrections and Rehabilitation, Information Systems Analyst
Northrop Grumman, Systems Engineer positions to support a Regional Network Operations Security Center

We are requesting that this information from local employers and the job listing information combined with LMI data for ICT jobs, the COA ICT Environmental Scans, the Cisco ICT job projections for California, and the Wall Street Journal article will be accepted as evidence that there is a need for the this program in our community and in our region.

10. Explanation of Employer Relationship (CTE only)

n/a

11. List of Members of Advisory Committee (CTE only)

IMPERIAL VALLEY COLLEGE CIS ADVISORY COMMITTEE MEMBERS

Industry Representatives:

Angel Marcial, Portfolio Manager, IT Department, IID
Maribel Garcia, Supervisor Energy Applications Support, IT Department, IID
Susan Moler, Information and Technical Services, County of Imperial
Aaron Popejoy, Creative Director/Operations Manager, Conveyor Group
Omar Ramos, Webmaster, Imperial Valley College
Cristobal Rodriguez, Technical Services, ICOE
Michael Carr, Information Systems Manager, City of El Centro/Owner-Operator Computer Doctor

Student Representatives:

Kayla Garcia
Matthew Thale

Counselor:

Janeen Kalin, Counselor, Imperial Valley College

CIS Faculty/Staff

Tom Paine, Professor of CIS
Walid Ghanim, Professor of CIS
Andres Martinez, Instructional Media Designer
Val Rodgers, Business Department Chair
Efrain Silva, Dean of Economic and Workforce Development
Maria Sell, Recording Secretary

12. Recommendations of Advisory Committee (CTE only)

At the Computer Information Systems Advisory Committee meeting on November 9, 2010, there was general agreement that a Cisco Academy would benefit the community. At their meeting on May 24, 2011, the Cisco curriculum was approved. Minutes are attached and excerpts are below:

November 9, 2010 Excerpt

Cisco Academy

Tom Paine and Val Rodgers discussed plans to implement a Cisco Academy at IVC. Mrs. Rodgers discussed with the group the progress made to implement a Cisco Academy at IVC during the last two semesters and asked for opinions regarding the need for Cisco training.

Ms. Garcia indicated that currently all IID technicians are Cisco certified; but when training is needed they have to send employees Los Angeles. She indicated that having the training nearby would be beneficial for future employees. Ms. Moler reiterated the fact that her employees also have to travel out of the county to get Cisco certified.

Mr. Carr added that most local companies have to contract out to install networking systems. However, when problems occur such as a virus, it is up to local employees to deal with. It would be more cost effective to have someone in-house who is able to respond in a timely manner. He also stated that once employees have the knowledge base for Cisco, they can work on all other networks.

In response to questions, Mrs. Rodgers indicated the Cisco Academy courses should begin in 2011-12.

Mr. Rodriguez asked what the price would be for the Cisco Academy. Mrs. Rodgers stated that students pay a per unit fee, which is currently \$26. Mr. Carr said that would be quite a savings since it costs \$1,800 currently to send employees to a five-day Cisco Academy, which doesn't include travel expenses and lost production.

There was general agreement that a Cisco Academy would benefit the community.

May 24, 2011, Excerpt

Approval of New Cisco CCNA Discovery Curriculum

The committee reviewed the new Cisco CCNA curriculum, including courses, major, and certificate.

Mr. Marcial asked about the prerequisites for the program. Mrs. Rodgers informed the committee that students would be required to take CIS 101 Introduction to information Systems as a prerequisite to CIS 160 IT Essentials, the first required course in the program. Students would then take the courses in sequence, each being a prerequisite for the next. The sequence is as follows:

CIS 160 CISCO IT Essentials: Hardware and Software

CIS 162 Cisco CCNA Discovery 1: Networking for Home and Small Businesses

CIS 163 Cisco CCNA Discovery 2: Working at a Small-to-Medium Bus or ISP

CIS 164 Cisco CCNA Discovery 3: Intro Routing/Switching in the Enterprise

CIS 165 Cisco CCNA Discovery 4: Designing & Supporting Computer Networks (4)

Mrs. Rodgers informed the committee that Work Experience courses are also required for the program. It will be recommended that the work experiences courses be taken during the last semester.

Mr. Carr asked if the program would be offered as both a certificate and a major. Mrs. Rodgers indicated that students will be able to apply for both. Mr. Carr told the committee that he thought students might not know the difference between an IVC certificate and a Cisco certification. Mrs. Rodgers indicated that students will be informed of the difference through their counselors. Once they have met the requirements for the certificate, they will be able to apply for and take the test for the Cisco certification.

Mr. Marcial inquired about CIS 104, Intro to Telecommunications, and how that course relates to the Cisco program. Mrs. Rodgers stated that as CIS 160 IT Essentials is offered in the curriculum, the CIS 104 Telecommunications course will be evaluated for relevance.

M/S (Michael Carr/Maribel Garcia) to approve the new Cisco curriculum. Motion carried.

Attachment: Labor / Job Market Data (CTE only)

See #8 above.

Attachment: Employer Survey (CTE only)

See #9 above.

Attachment: Minutes of Key Meetings

CIS Advisory Committee Meeting November 9, 2010

CIS Advisory Committee Meeting May 24, 2011

Curriculum Committee Meeting, Date Pending

Academic Senate Meeting, Date Pending

Board Meeting, Date Pending

Criteria C. Curriculum Standards

13. Display of Proposed Sequence

Courses listed are required courses for the major and/or certificate. Courses must be taken in sequence; thus it will take five semesters initially for students to progress through the program.

Fall Term Sem 1	Spring Term Sem 2	Fall Term Sem 3	Spring Term Sem 4	Fall Term Sem 5	Spring Term Sem 6
CIS 160	CIS 160	CIS 160	CIS 160	CIS 160	CIS 160
	CIS162			CIS 162	
		CIS 163			CIS 163
			CIS 164		
				CIS 165	
WE 201	WE 201	WE 201	WE 201	WE 201	WE 201
WE 220	WE 220	WE 220	WE 220	WE 220	WE 220

14. Transfer Documentation (if applicable): n/a

Attachment: Outlines of Record for Required Courses should be separately attached for each course

CIS 160 CISCO IT Essentials: Hardware and Software 4
CIS 162 Cisco CCNA Discovery 1: Networking for Home and Small Businesses 4
CIS 163 Cisco CCNA Discovery 2: Working at a Small-to-Medium Bus or ISP 4
CIS 164 Cisco CCNA Discovery 3: Intro Routing/Switching in the Enterprise 4
CIS 165 Cisco CCNA Discovery 4: Designing & Supporting Computer Networks 4
WE 201 Employment Readiness 1
WE 220 Internship 1 – 4

Attachment: Transfer Documentation (if applicable): n/a

Criteria D. Adequate Resources

15. Library and/or Learning Resources Plan

Prior to the program approval at Imperial Valley College, CIS faculty worked with the Assistant Librarian to review resources. It was determined that no new resources would be needed at the current time, including resources in computer labs; however library staff would remain responsive to the program as we go forward. In addition, as part of the curriculum process, the Assistant Librarian and the Dean of Learning Services and Instructional Technology reviewed the curriculum before approval.

16. Facilities and Equipment Plan

No new facilities or equipment is required.

17. Financial Support Plan

District financial support will be required to hire new adjunct instructors for the program. The District has made a commitment for these resources. In addition, the District has committee to reassigned time for a lead instructor. The classroom/lab infrastructure is in place and both District and Perkins CTE funding has been approved for the maintenance of the program.

18. Faculty Qualifications and Availability

As the Cisco program has been developed, CIS faculty have gone through the processes of developing the courses, investigating equipment needs, meeting with vendors, getting training, and designing a networking lab. Before the courses are taught, each instructor must be oriented and trained. Cisco recommends the District have two Cisco qualified instructors as we progress with the training. Certification of instructors prior to teaching the courses is important because it gives instructors knowledge of the Cisco program from a student perspective. San Diego Community College District, which is 120 miles away, has recently opened a regional center and we have been working with their staff to receive training and support. One instructor has already received training and we have secured the funding to send another instructor during the summer of 2011.

We are aware that putting the program in place will involve communications with Cisco at many levels, travel to San Diego, and training time. Once the program is up and running, the teaching load will not be able to be handled by current staff and we will need to hire new adjunct instructors; therefore, we are developing an adjunct pool of instructors with practical experience.

Currently, there is a full time instructor who has taken the lead. We have negotiated three ongoing hours of reassigned time for this instructor as a Curriculum Lead who would be needed to:

- Monitor the lab facilities to ensure they meet current Cisco requirements
- Maintain our curriculum to meet current Cisco certification requirements (as with any technology, certificate standards change over time)
- Monitor the instructor's credentials to be sure they meet Cisco requirements
- Attend meetings and workshops at our regional center in San Diego
- Collaborate with other academies
- Provide training and/or support for instructors
- Assist in recruiting and scheduling of courses
- Coordinate repairs and maintenance to the classroom and lab equipment

Criteria E. Compliance

19. Based on model curriculum (if applicable): n/a

20. Licensing or Accreditation Standards: n/a

21. Student Selection and Fees: n/a