COMPUTER INFORMATION SYSTEMS

PROGRAM REVIEW UPDATE 2009-11

ONE COLLEGE WAY
BLYTHE, CA 92225

EXECUTIVE SUMMARY

COMPUTER INFORMATION SYSTEMS DEPARTMENT

The Program Review Committee commends the Business Division faculty for producing an excellent CIS Program Review Update. The report is thorough, well-documented and clear.

The Committee took note of several promising developments in the CIS program, including:

1. The adoption of Blender software, an open source program in computer animation, is an innovative way to provide quality instruction at no cost to the College and students.

2. The CIS faculty's work designing certain courses for ITV and online modes will help enhance opportunities for students, including students at the Needles Center, to receive CIS instruction.

3. The CIS faculty has been effective in improving the quality and rigor of CIS courses and programs by upgrading course outlines, revising certificates, removing courses no longer being offered, ensuring CIS courses are articulated with four-year institutions, and ensuring all courses can be offered within a two-year cycle.

In its examination of the CIS program, the Program Review Committee expressed concerns about matters that are beyond the control of CIS faculty and which have broader, institution-wide implications. The Program Review Committee believes that these concerns should be taken up by the College Council/Strategic Planning Steering Committee:

1. There is confusion whether high school students (many of whom enroll in CIS as well as other course offered by the College) are able to register for PVC classes online. The College's policies and procedures governing this matter need to be discussed and clarified for the College community.

2. The College needs to clarify the future direction of distance learning courses and programs, including online, ITV and correspondence education. Such clarification is essential in planning future courses and programs, and for defining the optimal combinations of instructional modes in which such courses and programs should be delivered.

3. There is concern about the effectiveness of the Instructional Technologies Committee, formed last year to provide a forum for discussion among faculty, the IT Department and the Title III grant personnel in resolving technology problems in online, ITV and classroom instruction. The Instructional Technology Committee needs to be evaluated and recommendations made to improve its effectiveness.

PART 1: PURPOSE OF THIS PROGRAM

Program courses are available to students enrolled in CIS certificate programs, as well as other College programs and certificates. CIS courses are also available to others seeking to acquire or upgrade computer literacy skills for personal and career reasons. The CIS department also works collaboratively with Palo Verde High School to offer courses in the CIS field to qualified high school students during their traditional school day. The program offers instruction via ITV with the Needles Center and plans on offering online courses in the near future.

PART 2: DEMAND FOR THIS PROGRAM

Estimated Employment and Projected Growth						
Occupation Category	**Geographic Area (Estimated Year-Projected Year)**	**Estimated Employment**	**Projected Employment**	**Numeric Change**	**Percent Change**	**Additional Openings Due to Net Replacements**
Info. Sec. Analysts, Web Dev., & Comp. Net. Arch.	California (2008-2018)	35,000	52,600	17,600	50.3	6,300
	Inland Empire (2008-18)	1,250	1,750	500	40	230
Computer & Information Systems Managers	California (2008-2018)	41,200	47,200	6,000	14.6	6,700
	Inland Empire (2008-18)	1,110	1,220	110	9.9	180
Computer Hardware Engineers	California (2008-2018)	17,500	19,700	2,200	12.6	4,900
Computer Support Specialists	California (2008-2018)	64,100	71,500	7,400	11.5	17,800
Computer Systems Analysts	California (2008-2018)	59,700	68,300	8,600	14.4	12,900
	Inland Empire (2008-18)	2,040	2,280	240	11.8	440
Multimedia Artists and Animators	California (2008-2018)	24,900	27,100	2,200	8.8	790
	Inland Empire (2008-18)	180	190	10	5.6	5
Network and Computer Systems Administrators	California (2008-2018)	37,800	44,500	6,700	17.7	6,300
	Inland Empire (2008-18)	1,770	1,980	210	11.9	300
Computer Occupations, All Other*	California (2008-2018)	33,200	38,200	5,000	15.1	7,200
	Inland Empire (2008-18)	840	940	100	11.9	180

Source: EDD/LMID Projections of Employment by Occupation

Estimated Average Annual Job Openings				
Occupation Category	**Geographic Area (Estimated Year-Projected Year)**	**Jobs From Growth**	**Jobs Due to Net Replacements**	**Total Annual Job Openings**
Info. Security Analysts, Web Dev., and Comp.Net. Arch.	California (2008-2018)	1,760	630	2,390
Computer & Information Systems Managers	California (2008-2018)	600	670	1,270
Computer Hardware Engineers	California (2008-2018)	220	490	710
Computer Support Specialists	California (2008-2018)	740	1,780	2,520
Computer Systems Analysts	California (2008-2018)	860	1,290	2,150
Network and Computer Systems Administrators	California (2008-2018)	670	630	1,300

Source: EDD/LMID Projections of Employment by Occupation

Computer Information Systems Regional Occupational Report

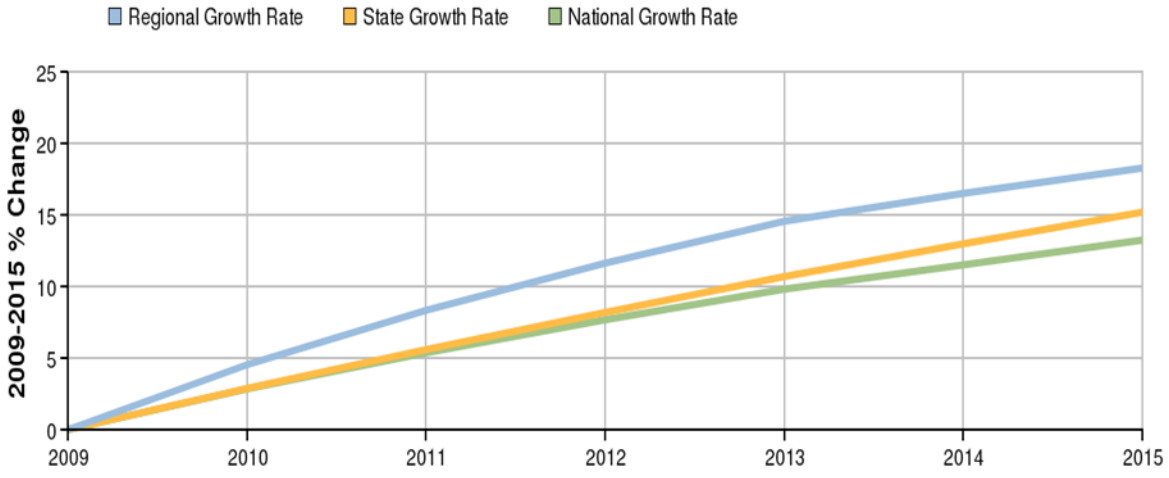
Region: Inland Empire
County Areas: Riverside and San Bernardino, California

Executive Summary

Selected Occupations	Education Level
Computer and information systems managers (SOC 11-3021)	Bachelor's degree
Computer and information scientists, research (SOC 15-1011)	Doctoral degree
Computer programmers (SOC 15-1021)	Bachelor's degree
Computer software engineers, applications (SOC 15-1031)	Bachelor's degree
Computer software engineers, systems software (SOC 15-1032)	Bachelor's degree
Computer support specialists (SOC 15-1041)	Associate's degree
Computer systems analysts (SOC 15-1051)	Bachelor's degree
Network and computer systems administrators (SOC 15-1071)	Bachelor's degree
Computer specialists, all other (SOC 15-1099)	Associate's degree
Computer hardware engineers (SOC 17-2061)	Bachelor's degree
Computer operators (SOC 43-9011)	Moderate-term on-the-job training

Basic Information	
2009 Occupational Jobs	14,960
2015 Occupational Jobs	17,694
Total Change	2,734
Total % Change	18.26%
Current Median Hourly Earnings	$28.65

Occupational Change Summary



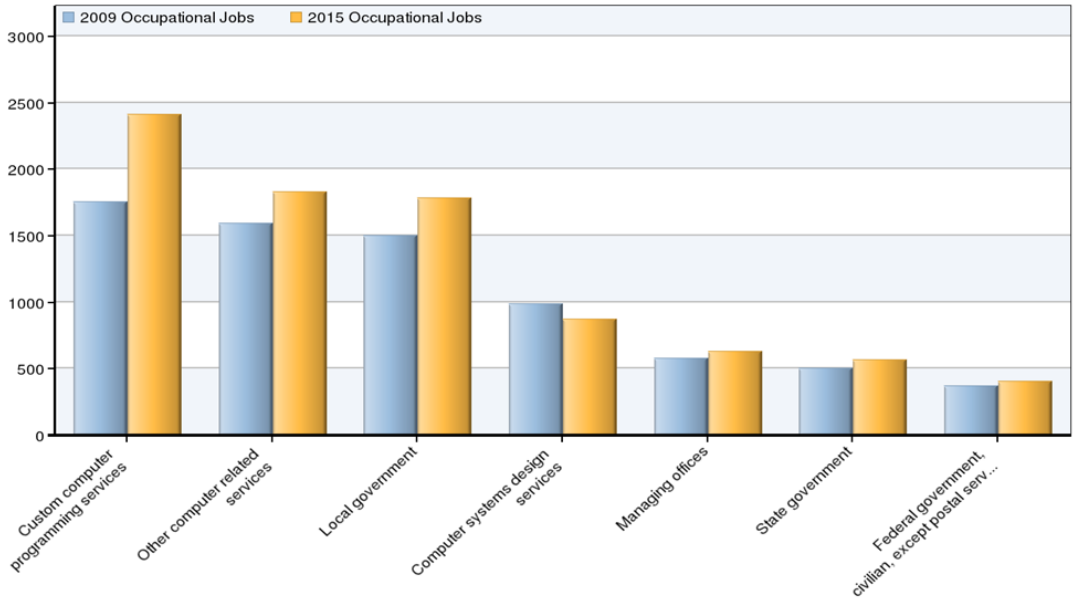
Region	2009 Jobs	2015 Jobs	Change	% Change	Current Median Hourly Earnings
Regional Total	14,960	17,694	2,734	18%	$28.65
State Total	484,815	558,475	73,660	15%	$38.09
National Total	3,598,559	4,075,057	476,498	13%	$33.70

Top Industries for Selected Occupations

NAICS Code	Name	2009 Jobs	2015 Jobs	Change	% Change
541511	Custom computer programming services	1,752	2,410	658	38%
541519	Other computer related services	1,591	1,826	235	15%
930000	Local government	1,497	1,785	288	19%
551114	Managing offices	579	629	50	9%
920000	State government	499	565	66	13%
911000	Federal government, civilian, except postal service	369	402	33	9%

Occupation Distribution

County	2009 Jobs
San Bernardino, CA	8,034
Riverside, CA	6,926



PART 3: QUALITY OF THIS PROGRAM

FALL 2009				
Course Code	Course Title	Credit	Location	Enrollment
CIS 080 02	Suppl. Instr. For Comp. Info Sys.	.50	Gallan-Basic Skills	1
CIS 080 04	Suppl. Instr. For Comp. Info Sys.	1	Gallan-Basic Skills	2
CIS 101 01	Intro. to Computers and Info. Sys.	3	Ponder - PVC	20
CIS 101 02	Intro. to Computers and Info. Sys.	3	Peterson - PVC	22
CIS 101 03	Intro. to Computers and Info. Sys.	3	Ponder - PVC	27
CIS 101 04	Intro. to Computers and Info. Sys.	3	Peterson - PVC	23
CIS 101 05	Intro. to Computers and Info. Sys.	3	Peterson - PVC	23
CIS 101 06	Intro. to Computers and Info. Sys.	3	Holmes - PVC	22
CIS 101 07	Intro. to Computers and Info. Sys.	3	Holmes - PVC	25
CIS 102 01	Personal Computer Applications	3	Ponder - PVC	27
CIS 102 02	Personal Computer Applications	3	Ponder - PVC	15
CIS 102 03	Personal Computer Applications	3	Crough - Needles	7
CIS 102 04	Personal Computer Applications	3	Ponder - PVC	20
CIS 102 05	Personal Computer Applications	3	Ponder - PVC	14
CIS 111 01	Business Computer Applications	3	Ponder - PVC	16
CIS 130 01	Intro. to 3D Computer Animation	3	Peterson - PVC	24
CIS 131 01	Animation Principles and Production I	3	Peterson - PVC	21
CIS 143 01	Word Processing – Microsoft Word	2	Peterson - PVC	13
CIS 170 01	Computer Maintenance	2	Peterson - PVC	25
CIS 247 01	Networking and Telecommunications	3	Ponder - PVC	14
CIS 265 01	Adobe Photoshop	2	Mitchell - Needles	3
CIS 270 01	Advanced Adobe Photoshop	2	Mitchell - Needles	5
SPRING 2010				
Course Code	Course Title	Credit	Location	Enrollment
CIS 080 02	Suppl. Instr. For Comp. Info Sys.	.50	Gallan-Basic Skills	1
CIS 080 04	Suppl. Instr. For Comp. Info Sys.	1	Gallan-Basic Skills	1
CIS 101 01	Intro. to Computers and Info. Sys.	3	Ponder - PVC	25
CIS 101 03	Intro. to Computers and Info. Sys.	3	Holmes - PVC	26
CIS 101 04	Intro. to Computers and Info. Sys.	3	Holmes - PVC	29
CIS 101 05	Intro. to Computers and Info. Sys.	3	Holmes - PVC	23
CIS 101 06	Intro. to Computers and Info. Sys.	3	James - PVC	26
CIS 101 07	Intro. to Computers and Info. Sys.	3	James - PVC	13
CIS 101 CX	Intro. to Computers and Info. Sys.	3	Peterson - PVC	1
CIS 102 01	Personal Computer Applications	3	Ponder - PVC	22
CIS 102 02	Personal Computer Applications	3	Ponder - PVC	17
CIS 102 03	Personal Computer Applications	3	Ponder - PVC	27
CIS 102 CX	Personal Computer Applications	3	Ponder - PVC	1
CIS 111 01	Computer Business Applications	3	Ponder - PVC	17
CIS 123 IS	Web Page Design Using HTML	3	Peterson - PVC	1
CIS 124 01	Web Page Design Tools	2	Peterson - PVC	14
CIS 132 01	Animation Principles and Prod. II	3	Peterson - PVC	16
CIS 133 01	Advanced 3D Computer Animation	3	Peterson - PVC	16
CIS 248 IS	Systems Analysis and Design	3	Ponder - PVC	2
CIS 265 01	Adobe Photoshop	2	Mitchell - Needles	11
CIS 270 01	Advanced Adobe Photoshop	2	Mitchell - Needles	2

FALL 2010				
Course Code	Course Title	Credit	Location	Enrollment
CIS 080 04	Suppl. Instr. For Comp. Info Sys.	1	Gallan-Basic Skills	1
CIS 101 01	Intro. to Computers and Info. Sys.	3	Ponder - PVC	22
CIS 101 02	Intro. to Computers and Info. Sys.	3	Peterson - PVC	28
CIS 101 03	Intro. to Computers and Info. Sys.	3	Peterson - PVC	29
CIS 101 04	Intro. to Computers and Info. Sys.	3	Holmes - PVC	29
CIS 101 05	Intro. to Computers and Info. Sys.	3	Holmes - PVC	27
CIS 101 06	Intro. to Computers and Info. Sys.	3	Holmes - PVC	28
CIS 102 01	Personal Computer Applications	3	Ponder - PVC	23
CIS 102 02	Personal Computer Applications	3	Ponder - PVC	22
CIS 102 03	Personal Computer Applications	3	Ponder - PVC	30
CIS 111 01	Computer Business Applications	3	Ponder - PVC	14
CIS 130 01	Intro. to 3D Computer Animation	3	Peterson - PVC	15
CIS 130 02	Intro. to 3D Computer Animation	3	Peterson - PVC	13
CIS 131 01	Animation Principles and Production I	3	Peterson - PVC	12
CIS 131 02	Animation Principles and Production I	3	Peterson - PVC	11
CIS 248 01	System Analysis and Design	3	Ponder - PVC	31
CIS 265 01	Adobe Photoshop	2	Mitchell - Needles	7
CIS 270 01	Advanced Adobe Photoshop	2	Mitchell - Needles	2
CIS 290 01	Selected Studies in Comp. Info. Sys.	3	Peterson - PVC	1
SPRING 2011				
Course Code	Course Title	Credit	Location	Enrollment
CIS 080 02	Suppl. Instr. For Comp. Info Sys.	.50	Gallan-Basic Skills	1
CIS 080 04	Suppl. Instr. For Comp. Info Sys.	1	Gallan-Basic Skills	1
CIS 101 01	Intro. to Computers and Info. Sys.	3	Ponder - PVC	28
CIS 101 02	Intro. to Computers and Info. Sys.	3	Crough - Needles	17
CIS 101 03	Intro. to Computers and Info. Sys.	3	Peterson - PVC	29
CIS 101 04	Intro. to Computers and Info. Sys.	3	Peterson - PVC	27
CIS 101 05	Intro. to Computers and Info. Sys.	3	Holmes - PVC	28
CIS 101 06	Intro. to Computers and Info. Sys.	3	Holmes - PVC	28
CIS 101 CX	Intro. to Computers and Info. Sys.	3	Peterson - PVC	1
CIS 102 01	Personal Computer Applications	3	Ponder - PVC	25
CIS 102 02	Personal Computer Applications	3	Ponder - PVC	15
CIS 102 03	Personal Computer Applications	3	Ponder - PVC	29
CIS 111 01	Business Computer Applications	3	Ponder - PVC	13
CIS 111 02	Business Computer Applications	3	Ponder - PVC	27
CIS 132 01	Animation Principles and Prod. II	3	Peterson - PVC	11
CIS 132 02	Animation Principles and Prod. II	3	Peterson - PVC	7
CIS 133 01	Advanced 3D Computer Animation	3	Peterson - PVC	11
CIS 133 02	Advanced 3D Computer Animation	3	Peterson - PVC	7
CIS 265 01	Adobe Photoshop	2	Mitchell - Needles	4
CIS 270 01	Advanced Adobe Photoshop	2	Mitchell - Needles	6

COMPLETIONS			
Certificate/Degree	Title	09-10	10-11
Certificate	Computer Animation	11	15
Certificate	Computer Repair	0	Inactive Status
Certificate	Computer Applications	0	Inactive Status
Certificate	Information Technology Literacy	5	13
AS Degree	Computer Information Systems	1	Inactive status

Location	Category	Term	# of Courses Taught	Total Students Enrolled	Avg. Enroll. Per Course
PVC	Face to Face & Distance Education Courses	Fall 2009	17	351	**20.65**
Needles	Face to Face and Distance Education Courses	Fall 2009	3	15	5
PVC	Basic Skills, Credit by Exam, Independent Study	Fall 2009	2	3	1.5
PVC	Face to Face & Distance Education Courses	Spring 2010	13	271	**20.85**
Needles	Face to Face and Distance Education Courses	Spring 2010	2	13	6.5
PVC	Basic Skills, Credit by Exam, Independent Study	Spring 2010	6	7	1.17
PVC	Face to Face & Distance Education Courses	Fall 2010	14	312	**22.29**
Needles	Face to Face and Distance Education Courses	Fall 2010	2	9	4.5
PVC	Basic Skills, Credit by Exam, Independent Study	Fall 2010	1	1	1
PVC	Face to Face & Distance Education Courses	Spring 2011	14	285	**20.36**
Needles	Face to Face and Distance Education Courses	Spring 2011	3	27	9
PVC	Basic Skills, Credit by Exam, Independent Study	Spring 2011	3	3	1

Based on the data collected during the 2009-2010 and the 2010-2011 academic years, it was found that the Palo Verde brick and mortar and distance education courses maintained over a 20 student enrollment average. In addition, the PVC main campus courses and distance education courses also teach 271-351 students each term.

PART 4: EXTERNAL ISSUES

The issues that arose due to students concurrently enrolled in the CIS Computer Animation courses have been fixed. This conflict occurred because PVHS/PVC Students were enrolled in two courses during the same semester, with one of the courses having a prerequisite. This prerequisite was for the second course which is offered each semester. The Computer Animation program was designed before the articulation with PVHS was implemented. Now that the students are enrolled in two CIS courses during each semester, these students were having trouble enrolling in the second course of the series during each semester due to conflicts with the new MIS system (Datatel). This scheduling issue caused issues between PVC and PVHS students.

The CIS department also lost a full-time faculty at the beginning of the Fall 2011 semester. The loss of a full-time faculty created a void in program offerings that could not be corrected due to current budget constraints at the local and state level. To rectify this concern, the CIS program has been inactivating courses that have not been offered in the past two years, inactivating courses that do not fit into a degree or certificate program, and revising all courses that are currently a part of a degree or certificate program.

Presently, the CIS Department is resurrecting the Certificate in Career Preparation in Computer Applications. With this fifteen unit certificate, students are able to enroll in a rigorous program of study that can be offered in each two year cycle.

In addition, the CIS Department is revising the Certificate of Career Preparation in Information Technology Literacy. Presently there is a course (CIS 111 Business Computer Applications) which is no longer tied to any program of study and is not articulated for transfer with any higher educational institution. For this reason, the CIS Department has decided that replacing the CIS 111 course with CIS 248 (Systems Analysis and Design) would be more meaningful and worthwhile to the PVC students. The CIS 248 course is articulated already with the CSU and the UC system. In addition, labor market data supports the addition of the CIS 248 course as jobs in this field of study are expected to grow 20% from 2008-2018. (BLS, http://www.bls.gov/oco/ocos287.htm)

PART 5: COST OF THIS PROGRAM

2009-10	Salaries	Benefits	Supplies	Contracts	Capital	Total	FTEs
CIS	$199,507.16	$49,606.98	$647.76	$ -	$ -	$249,761.90	69.85
2010-11	Salaries	Benefits	Supplies	Contracts	Capital	Total	FTEs
CIS	$192,089.00	$52,355.51	$417.98	$ -	$ -	$244,862.49	60.26

PART 6: TWO-YEAR PLAN

The CIS Department would still like to have members serve on the PVC Technology Committee. The CIS Department plans on teaching current and emerging technology skills and techniques as they relate to the computing field and this could best be addressed by having a member of the department serve on the PVC Technology Committee. Presently, the Technology Committee has not held a formal meeting and only department chairs are members. In addition, the value of having a faculty member from the CIS Department would best serve the faculty of PVC.

During the 2011-2012 school year, the CIS Department did not offer courses in the Computer Animation program. The reason behind this was to look at other ways to offer this instruction that would not make the college dependent upon purchasing the latest animation software. The expense

of this software would be extensive and could place a burden on the college at a time when the budget is tight. To rectify this situation, the CIS Department found Open Source Software in computer animation called "Blender". This software is free of charge and updated regularly through a free and collaborative open source license. The instructor will begin using the software and interface and will design curriculum to correspond with the Blender software.

During the 2011-2012 academic year, the CIS Department began offering a new certificate in Web Design and Graphic Content. The latest Adobe Creative Suite was purchased through Title III funds which provided the latest software for Web design, desktop publishing, and graphic design. This will help keep the program strong for many years.

The CIS Department would also like to implement a yearly field trip to such venues as computer animation studios, graphic design studios, computer related trade events, and seminars in the computing field. This will have to wait until the budget at the state and local level becomes more stable.

CIS courses are presently being designed for the online environment. It is the goal of the CIS Department to offer courses through this platform as well as take advantage of the ITV system which will enable more Needles Center Students to benefit from the courses offered at PVC.

Many courses have been made inactive in the CIS Department. The reason behind this was to remove courses that were in the college catalog that were not being offered, were not a part of a degree or certificate program, and were not rigorous in design. Presently, each course that is offered through the CIS Department has been updated, is part of a degree or certificate program, articulates with a higher educational institution, and can be offered in a two-year cycle.

The CIS Department is also in the process of resurrecting and revising two certificate programs at Palo Verde College. These certificates are Computer Applications and Information Technology Literacy. The Computer Applications Certificate of Career Preparation was made inactive during the 2009-2010 academic year. Now that there is only one instructor in the CIS Department, Courses that are not related to a program or a certificate have been removed and the CIS program has been condensed to be more powerful and worthwhile for its students. The new Computer Applications certificate will allow student to earn a more comprehensive certificate that has been designed using the latest software, skills, and resources.

Additional efforts will be made by the CIS Department to pursue students at PVHS for enrollment in PVC CIS courses. Presently there is not a CIS instructor at PVHS. Last year, the computer animation courses filled to course capacity very quickly. This year the Web Design courses have also filled to capacity. If this interest in CIS courses continues to grow, the CIS Department wants to continue pursuing this collaborative partnership by creating effective technology pathways to the local high school students.