Assessment: Program Review Updates prior to Fall 2018

Shasta College

Program (CIS) - Computer and Information Systems: CISCO Networking Cert CL.3441

Program Catalog Summary:
Certificate:
SC Program: CL.3441

PROGRAM DESCRIPTION: This certificate program is awarded to students who have successfully completed the Introduction to Computer Science course and the CCNA sequence of courses. Students learn entry level networking skills that will help prepare them for a career in the Information Technology (IT) field. The program prepares students to take the Cisco CCNA certification exam.

This is a locally approved certificate. Upon satisfactory completion of the listed requirements and application for completion of the certificate to Admissions and Records, the student will receive a certificate of completion. This certificate program is not approved through the California Community College Chancellor's Office; therefore, completion of the certificate will not be listed on the student's transcript.

PROGRAM LEARNING OUTCOMES:
Upon successful completion of this certificate, the student should be able to:
1. Demonstrate competence in the area of Cisco Networking. To demonstrate competence in this area the student will be able to build networks with the following features: three computers on a LAN using a switch; a router with passwords, interfaces, routing protocol configured; a switch with two VLANs and STP protocol; PPP encapsulation and PAP/CHAP authentication protocols between two routers connected with a serial link.
2. Convert an IP Address and subnet mask from a dotted decimal notation into a binary format. Using the values in a binary format the student will then be able to demonstrate the function of the subnet mask in isolating the network address.

GAINFUL EMPLOYMENT INFORMATION: For information about our graduation rates, the median debt of students who completed this certificate, and other important information, please visit our website at http://www.shastacollege.edu/bait_cis_gainful_employment/.

CERTIFICATE REQUIREMENTS:
CIS 2 Introduction to Computer Science 4
CIS 31 CCNA1–Networking/Home and Small Business 3
CIS 32 CCNA2–Working at a Small to Med. Business/ISP 3
CIS 33 CCNA3–Routing and Switching in the Enterprise 3
CIS 34 CCNA4–Designing/Supporting Computer Networks 3

TOTAL UNITS FOR CERTIFICATE 16

Fall 2017
Prepared By: Lew Schmitt. Tom Martin, Dhabih Hendershot & Jeff Hendrickson
What improvements are needed? Please reference items from any associated program reviews as needed.: To improve student outcomes this program needs two additional full-time faculty, one as a replacement for a probable retirement which is supported by our data. The program needs to update hardware to current industry standards, collaborate with local high schools to communicate our updated curriculum and develop guided pathways, develop a student success plan with our new student success coordinator, send CIS faculty for professional development to keep our skills current and develop a marketing plan with EWD. This program operates both night and day classes and needs large blocks of time in computer labs with updated hardware.

It is important that we maintain sufficient computer lab classrooms in order to schedule courses when students need them and provide open lab time for our students to get help on their classwork. Currently our CIS students are not supported by any other supervised tutoring lab. Technology is part of many classes and programs beyond our department and student need a place to go for help.

Who completed this form?: Lew Schmitt. Tom Martin, Dhabih Hendershot & Jeff Hendrickson

Participation in the report: Area Faculty (list in the next box), Advisory Committee (if one exists), Other (such as counselors-outside area faculty-deans)

Summarize Participation comments: Technology in our labs is trailing behind industry standards

New faculty and para-professional needed

New equipment needed

Recommendation for Discontinuance?: No

Analyze Overall PLO achievement: PLO achievement is very high. 100% of students earning the certificate have achieved the PLO's. CIS Faculty are currently developing additional PLO's for this program which will be updated shortly.

What changes could be (or have been) made to improve the program?: CIS faculty along with advisory committee have restructured this certificate to align with current industry standards and to align within a stackable certificate and degree pathway that leads from the high schools and on to four year institutions. Each course has been reviewed and updated as well. Faculty have successfully applied for funding for a partial upgrade to some equipment but additional funding is needed to bring us in line with mandated industry changes and to adequately prepare our student for the workforce.

Resources needed to implement the changes noted above: Two additional faculty with one replacement for a potential retirement

Updated switches and routers, rack mounts, cabling, tools, USB drives, ssd drives, wireless access in the computer labs, dual monitors in the lab, new classroom projectors, NetOp software, Classroom display devices and high end pc's and laptops, classroom color printers with wireless printing, scanners, and other devices that improve our ability to deliver quality education.

Professional Development for CIS faculty to update skills and knowledge

Additional computer lab classrooms as it is difficult to schedule courses when students need them and we are already offering sections in the evening.

Open lab with paraprofessional to support CIS students with course work

Equipment and software for faculty offices to develop online content for our courses.

Labor Market Demand: LMI data shows technology industry jobs are increasing every year across the nation and particularly in California. Local demand is also very strong with many positions remaining open. Our advisory committee reports that they do not bother to list many of their IT related jobs because of the lack of response of qualified workers and rely instead on their social networks to provide references. CIS faculty have referred more than ten students who have been hired this past year at local business. CIS Faculty has also created a LinkedIn group for current and former students where new jobs are posted. Currently we have over 800 members.

Duplication of training: Similar Program at Butte College

Program effectiveness: This program measures its effectiveness by Perkins Core Indicators as reported by the Chancellor's office and college generated data read with Tableau.

Other data indications for program improvement: Our Tableau data shows that our success (77%) and retention (92%) rates are higher than the college goals of 70% and 80%.

Perkins Core Indicators show good success rates as well and also show we need to help students fill out the college paperwork to officially "complete" certificates and degrees which will be addressed in our student success plan.

Replicating community college programs north of Sacramento?: Similar Program at Butte College

CSU and UC Transfer impact analysis:: Few of our students in this program transfer as their goal is employment or promotions. We do keep in contact with CSU Chico and Southern Oregon University where we have developed pathways to four year degrees. Those student who do transfer tend to favor those locations.

Influence on related programs and services: This certificate is one step in a series of stackable certificates and degrees.

Specific additional program reflections: Our advisory committee has long indicated that an improvement on student social job skills is needed. We have added team projects and presentations into our courses which has shown to be somewhat effective and are currently developing modules from the 21st Century Job Skills and Growth Mindset curriculum to incorporate into several classes

Other factors for consideration: This program has sections scheduled during the day and night and requires large block of time in computer lab classrooms. As we plan for new buildings it will be important that we maintain a higher number of labs than we currently have to allow for growth and an open tutoring lab focused on technology related courses. Most courses in this program have an online component.

TO BE COMPLETED BY THE PROGRAM REVIEW COMMITTEE PRC Action:: PRC recommends the program continue without

qualification

Summary Date: 01/30/2019

Summary of findings: The PRC recommends this program continue without qualification. The program has a five-year average of 4.4 completers (2012/13 to 2016/17) but shows 7 completers in 2017/18. The 5-year average success rate for all degree classes is 74.75%, which is above the Institution-set Standard of 70%. Retention rates are very strong with a five-year average of 91.06% for classes in the certificate. Enrollments appear to be well-maintained with a 5-year average of 19 students per section. There has been an increase in enrollments from 289 in year 2012/13 to 368 in year 2016/17 which is a 27.34% jump. The increase in sections for the same time periods from 14 to 18 is a 28.57% increase. The PLO's have been mapped to ISLO's, SLO's to PLO's and SLO's to ISLO's for classes in the certificate.

The CIS faculty are recognized for the effort in preparing the Program Review report and commended for their improvements: "CIS faculty along with advisory committee have restructured this certificate to align with current industry standards and to align within a stackable certificate and degree pathway that leads from the high schools and on to four year institutions. Each course has been reviewed and updated as well. Faculty have successfully applied for funding for a partial upgrade to some equipment but additional funding is needed to bring us in line with mandated industry changes and to adequately prepare our student for the workforce.

In addition they are applauded for a number of good ideas and encouraged to follow up. With the increased enrollments it is exciting to see the increased numbers of certificates awarded in 2017/18 and their understanding of data which gives emphasis on outcomes direction "Perkins Core Indicators show good success rates as well and also show we need to help students fill out the college paperwork to officially "complete" certificates and degrees which will be addressed in our student success plan."

Summary review date: 02/20/2019
Date summary sent to program faculty and/or counselors: 02/25/2019
Program faculty response: Counselors: Carolyn Borg: I support the recommendation to continue the CISCO certificate as well. And I agree that we need to create a process to help students apply for their certificates. Sue Loring also supports.

Tom Martin, thanked the PRC.

Date summary sent to College Council: 03/27/2019
Date reviewed by College Council: 04/02/2019

Fall 2017 Program Review
Course Statistics

Course Name		Academic Year				
		2012-13	2013-14	2014-15	2015-16	2016-17
CIS-2	# of Sections	8	8	8	11	12
	Enrollment	264	261	237	302	326
	FTES	32.7	31.9	30.0	38.1	41.5
	FTEF	2.14	2.14	2.14	1.87	1.87
	WSCH	990	968	910	1,130	1,224
	Avg Enrl/Section	33	33	30	27	27
	Avg FTES FTEF	15.31	14.94	14.07	15.86	17.00
	Avg WSCH FTEF	464	454	427	482	516
CIS-31	# of Sections	2	2	3	3	2
	Enrollment	50	44	48	49	41
	FTES	6.3	5.9	5.7	5.8	4.7
	FTEF	0.48	0.48	0.48	0.48	0.48
	WSCH	189	177	155	164	141
	Avg Enrl/Section	25	22	16	16	21
	Avg FTES FTEF	12.68	11.87	9.87	10.22	9.66
	Avg WSCH FTEF	391	366	304	306	292
CIS-32	# of Sections	2	2	3	2	2
	Enrollment	33	26	40	27	35
	FTES	4.2	3.6	4.4	3.6	4.6
	FTEF	0.48	0.48	0.48	0.24	0.48
	WSCH	126	107	114	100	137
	Avg Enrl/Section	17	13	13	14	18
	Avg FTES FTEF	8.42	7.18	7.03	11.58	9.39
	Avg WSCH FTEF	261	221	219	348	283
CIS-33	# of Sections	1	1	3	1	1
	Enrollment	21	17	32	9	18
	FTES	2.7	2.1	4.2	1.2	2.3
	FTEF	0.24	0.24	0.48	0.00	0.24
	WSCH	82	62	125	20	68
	Avg Enrl/Section	21	17	11	9	18
	Avg FTES FTEF	10.88	8.27	6.47		9.39
	Avg WSCH FTEF	339	257	201		281
CIS-34	# of Sections	1	1	3	1	1
	Enrollment	22	16	32	9	16
	FTES	2.7	2.1	4.4	1.2	2.1
	FTEF	0.24	0.24	0.48	0.00	0.24
	WSCH	82	62	131	20	64
	Avg Enrl/Section	22	16	11	9	16
	Avg FTES FTEF	10.88	8.27	6.89		8.81
	Avg WSCH FTEF	339	257	213		265
Grand Total	# of Sections	14	14	20	18	18
	Enrollment	289	294	281	342	368
	FTES	48.6	45.5	48.7	49.9	55.2
	FTEF	3.59	3.59	4.07	2.60	3.32
	WSCH	1,469	1,376	1,435	1,434	1,634

Fall 2017 Program Review
Course Statistics

Avg Enrl/Section	21	21	14	19	20
Avg FTES FTEF	13.32	12.44	10.82	14.30	13.48
Avg WSCH FTEF	407	380	330	433	409

Course Name	Title		Academic Year				
			2012-13	2013-14	2014-15	2015-16	2016-17
CIS-2	Intro to Computer Science	Success	70.49%	70.29%	64.32%	68.52%	72.29%
		Retention	87.30%	91.21%	85.46%	89.84%	91.87%
CIS-31	CIS CCNA I-Net Home/Sm Bus	Success	71.74%	79.07%	81.82%	79.07%	88.89%
		Retention	93.48%	86.05%	90.91%	97.67%	94.44%
CIS-32	CIS CCNA 2 Wk at S-M Bu or IS	Success	81.82%	96.15%	82.35%	96.43%	80.00%
		Retention	90.91%	96.15%	91.18%	100.00%	100.00%
CIS-33	Cisco CCNA 3-Rout/Swit in Ent	Success	100.00%	100.00%	100.00%	100.00%	94.44%
		Retention	100.00%	100.00%	100.00%	100.00%	100.00%
CIS-34	Cisco CCNA 4-Des/Sup Com Net	Success	85.71%	100.00%	96.88%	100.00%	100.00%
		Retention	95.24%	100.00%	96.88%	100.00%	100.00%
Grand Total		Success	74.25%	76.18%	73.98%	73.10%	76.26%
		Retention	89.59%	91.76%	88.89%	91.88%	93.38%

Fall 2017 Program Review
Program Awards

Award Type	Program Type - TOP61	2012-13	2013-14	2014-15	2015-16	2016-17
Certificate requiring 6 to < 18 semester units	Computer Networking-070810	2	4	3	10	2
Certificate requiring 30 to < 60 semester units	Computer Networking-070810	3	6	1	6	
Grand Total		5	10	4	16	2