

# Assessment: Program Review Updates prior to Fall 2018



## Program (CIS) - Computer and Information Systems: Computer Networking Cert CT.3108

**Program Catalog Summary:** PROGRAM DESCRIPTION: This certificate program is a second level certificate that continues to build from either the Microsoft Server or CISCO Networking certificates and leads into the Datacenter Admin certificate. Students who complete this degree will qualify for several entry level jobs in the IT field.

This certificate is approved through the California Community College Chancellor's Office. Upon satisfactory completion of the listed requirements and filing an application for graduation with Admissions and Records, the student's transcript will reflect completion of this certificate.

### PROGRAM LEARNING OUTCOMES:

Upon successful completion of this degree, 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. This certificate program is a second level certificate that continues to build from either the Microsoft Server or CISCO Networking certificates and leads into the Datacenter Admin certificate. Students who complete this degree will qualify for several entry level jobs in the IT field.

**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/](http://www.shastacollege.edu/bait_cis_gainful_employment/).

### CERTIFICATE REQUIREMENTS:

- CIS 2 Introduction to Computer Science 4
- CIS 15 Install and Configure Microsoft Server 3
- CIS 16 Administering Microsoft Server 3
- CIS 17 Configure Advanced Server Services 3
- CIS 31 CCNA 1 Routing and Switching – Introduction to Networks 3
- CIS 32 CCNA 2 Routing and Switching – Routing and Switching Essentials 3
- CIS 33 CCNA 3 Routing and Switching – Scaling Networks 3
- CIS 34 CCNA 4 Routing and Switching – Connecting Networks 3
- CIS 92 Introduction to Computer Security – Security + 3
- CIS 94 CIS Worksite Learning 1

TOTAL UNITS FOR CERTIFICATE 29

### *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

**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:** None

**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?:** None

**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 curriculums 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.

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
CIS-92	# of Sections	1	1	1	2	2
	Enrollment	25	27	27	46	35
	FTES	3.3	3.5	3.1	6.3	4.1
	FTEF	0.24	0.24	0.24	0.48	0.48
	WSCH	100	104	96	188	124

Fall 2017 Program Review  
Course Statistics

	Avg Enrl/Section	25	27	27	23	18
	Avg FTES FTEF	13.78	14.36	13.24	12.95	8.56
	Avg WSCH FTEF	414	430	397	389	257
CIS-94	# of Sections	3	4	11	4	1
	Enrollment	5	7	13	4	1
	FTES	0.4	0.4	1.5	0.3	0.1
	FTEF	0.00	0.00	0.00	0.00	0.00
	WSCH	52	53	198	38	17
	Avg Enrl/Section	2	2	1	1	1
	Avg FTES FTEF					
	Avg WSCH FTEF					
Grand Total	# of Sections	18	19	32	24	21
	Enrollment	304	306	302	364	391
	FTES	52.4	49.4	53.2	56.5	59.5
	FTEF	3.83	3.83	4.31	3.08	3.81
	WSCH	1,621	1,533	1,729	1,660	1,775
	Avg Enrl/Section	17	16	9	15	19
	Avg FTES FTEF	13.35	12.57	10.96	14.08	12.83
	Avg WSCH FTEF	407	383	334	426	388

Fall 2017 Program Review  
Success and Retention

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%
CIS-92	Intro to Computer Security	Success	84.00%	100.00%	91.30%	75.00%	53.13%
		Retention	96.00%	100.00%	100.00%	95.83%	87.50%
CIS-94	CIS Worksite Learning	Success	75.00%	100.00%	93.75%	100.00%	100.00%
		Retention	75.00%	100.00%	93.75%	100.00%	100.00%
Grand Total		Success	74.87%	78.23%	75.74%	73.54%	74.73%
		Retention	89.85%	92.47%	89.71%	92.38%	92.99%

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