Agenda

Computer Information Sciences/Computer Applications Advisory Committee

Lake Tahoe Community College

Thursday March 22, 2018

10:00-11:30 AM

Board Room

- Welcome and Introductions

- Program Overview

- IT Technician Pathway/Cyber Security Specialist

- General Discussion

- Perkins

Computer Information Sciences/Advisory Committee Minutes

Lake Tahoe Community College
Thursday March 22, 2018
10:00 – 11:30AM (L104/Board Room)

- **Welcome and Introductions**
  - Meeting called to order at 10:05 p.m.
  - LTCC Staff Attendance:
    - Brad Deeds, Dean of Workforce Development & Instruction
    - Amber Goligoski, Program Coordinator of Apprenticeship & Work-Based Learning
    - Kerry David, Board of Trustees
    - Melissa Liggett, CTE Program Technician
    - Treva Thomas, Distance Education Coordinator, Business Faculty

  - Workforce Partners, Stakeholders, Regional Collaborators:
    - Annette Nylander, Computer Information Sciences Faculty (Sierra College)
    - Deni Sullivan, IT Specialist (US Forest Service)
    - Jason Roberts, IT Director (Barton Health)
    - Markus Geissler, IT & DMA Professor/Deputy Sector Navigator (California Community Colleges)

- **IT Technician Pathway - Cybersecurity**
  - The college currently has a Web Development Degree and Certificate of Achievement. The program has frequently seen low enrollments and those certifications are not leading to positive workforce outcomes and job opportunities.
  - In the fall, the college will launch the IT Technician Pathway - Cybersecurity. The goal is to get students industry-recognized certificates such as A+, Network+, Security +.
  - Students will use the virtual lab NETLAB+ technology, which will be funded through the Strong Workforce Program.
  - Employers also need employees with soft skills such as communication, teamwork, adaptability, resiliency, etc. These skills are built into the new courses. The college's Work-Based Learning program is also incorporating these skills into programming.

- **Member Reports**
  - LTCC hired Annette Nylander, full-time CIS faculty from Sierra College, as a consultant to launch the IT Technician Pathway – Cybersecurity at LTCC. She is currently on sabbatical and working to revamp Sierra College's entire CIS program, as well as at LTCC.
  - Deni Sullivan has been working at the US Forest Service for 20+ years. She is the current IT Supervisor for their Data Center Services Group. She is located in South Lake Tahoe and works remotely for the Washington D.C. office. The US Forest Service has approximately 30 vacancies in her department. They fill the gaps using outside contract

resources for short-term projects. They are always in need of persons with Cybersecurity and Cloud Technology experience.
- o Jason Roberts is the director of IT at [Barton Health](). His expertise is Cybersecurity and he is eager to talk about possible apprenticeships/internships in the future. His department has grown from approximately 15 to 33 people. It has been difficult to find qualified applicants and consequently, they outsource a lot. **They prefer their desktop support staff to have at least one of the following certifications; A+, Network+, Security+, and will pay for employees to receive their certifications.** They will also pay for any related testing fees as they can be expensive. Microsoft testing can start around $90 and Cisco can be as high as $500 per test.
- o Markus Geissler, *Deputy Sector Navigator for Information and Communication Technologies and Digital Media* for the Greater Sacramento/Lake Tahoe region. Cybersecurity is the next focus and a draft is being developed for the California Transfer Model Curriculum. He has met with South Tahoe High School and is available to assist with the new program launch.
- o The college offers IT internships through the Work Experience program and utilizes [Tahoe Mountain Lab]() as a work-based learning facility. Amber Goligoski was just hired as the Apprenticeship and Work-Based Learning Coordinator.

- **Business Information Worker Handout**
  - o The Business Information Worker Pathway represents a set of digital and soft skills in demand by businesses throughout the state.
    - There will be badges and certifications focusing on Office Technology and Business. The college will be updating Computer Application courses and re-packaging them into marketable skills for a technological work environment. The program will not be transferable but rather a stacking of skills through two phases. Phase one includes keyboarding, Microsoft work/Excel/Outlook/etc., human relations/customer service, and business communication skills. Phase two concentrates on more specialized skills such as Quickbooks, Electronic Records Management, and other skills. Annette Nylander is willing to share curriculum at Sierra College to help develop some of the more specialized courses.

- **Annual Program Review Handouts**
  - o Computer & Information Science summary:
    - 1.78 Full-time Equivalent Students (FTES)
    - 20 Total Duplicated Headcount
  - o Computer & Information Science student demographics:
    - 72.2% male, 22.2% female
    - 11.1% Hispanic (SLT community at 28-30% Hispanic)
  - o Web Development, Network, Hardware, and IT summary:
    - 5.16 Full-time Equivalent Students (FTES)
    - 62 Total Duplicated Headcount
  - o Web Development, Network, Hardware, and IT demographics:
    - 63.3% male, 36.7% female

- ▪ 26.5% Hispanic (SLT community at 28-30% Hispanic)

- **Perkins**
  - o Perkins funding helps the Career & Technical Education department provide a Quarterly Textbook Lending Program, which provides textbooks for eligible students who are pursuing a CTE degree or certificate.

- **Adjournment**
  - o The meeting adjourned at 11:36 a.m.

Respectively submitted,
Melissa Liggett, Program Technician
Career & Technical Education

2016-17 ANNUAL PROGRAM REVIEW
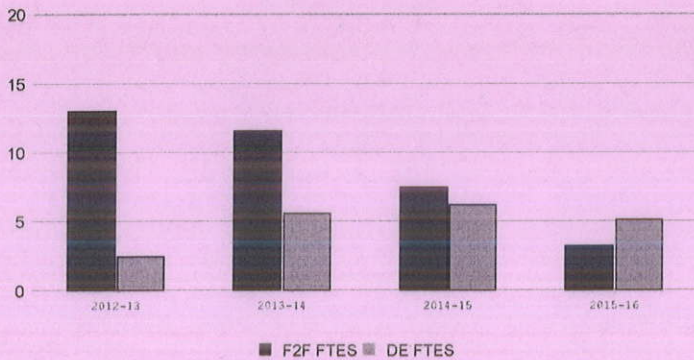## Computer Applications

COMPUTER APPLICATIONS SUMMARY

This report contains data from Academic Year (AY) 2012 to 2016. Information on program size based on full-time equivalent students (FTES), Student Success, and Student Achievement are presented below.

	Total Sections	F2F Sections	Dist Ed Sections	Total FTES	F2F FTES	Dist Ed FTES	Total Duplicated Headcount	F2F Duplicated Headcount	Dist Ed Duplicated Headcount
2012-13	18	17	1	15.44	12.99	2.45	263	241	22
2013-14	20	17	3	17.13	11.57	5.56	287	237	50
2014-15	16	11	5	13.64	7.46	6.18	227	160	67
2015-16	15	11	4	8.30	3.21	5.09	188	134	54
3-Yr Chg (12-13 to 15-16)	-16.7%	-35.3%	300.0%	-46.2%	-75.3%	108.2%	-28.5%	-44.4%	145.5%
1-Yr Chg (14-15 to 15-16)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

RESIDENT FTES

F2F FTES DE FTES

DUPLICATED HEADCOUNT

F2F Dup Headcount DE Dup Headcount

Office of Institutional Research and Planning (OIRP)
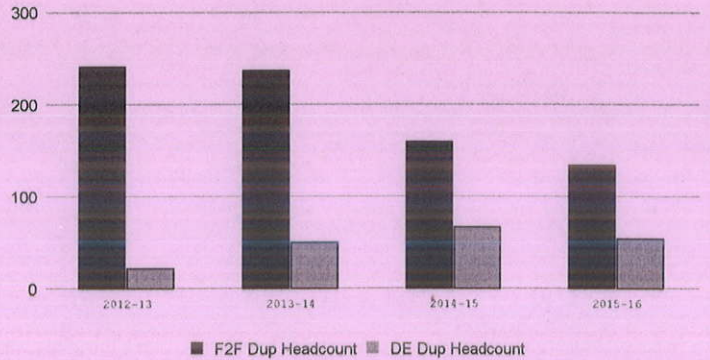
2016-17 ANNUAL PROGRAM REVIEW
Computer Applications

DEMOGRAPHICS

	2012-13		2013-14		2014-15		2015-16	
	N	%	N	%	N	%	N	%
Male	58	36.3%	72	36.9%	55	37.9%	51	44.7%
Female	102	63.8%	122	62.6%	90	62.1%	63	55.3%
Unknown	0	0.0%	1	0.5%	0	0.0%	0	0.0%

	2012-13		2013-14		2014-15		2015-16	
	N	%	N	%	N	%	N	%
African American	3	1.9%	0	0.0%	2	1.4%	1	0.9%
Asian	6	3.8%	5	2.6%	7	4.8%	1	0.9%
Hispanic	33	20.6%	42	21.5%	36	24.8%	28	24.6%
Native Amer/Alaska Native	2	1.3%	3	1.5%	0	0.0%	1	0.9%
Pacific Islander	2	1.3%	1	0.5%	1	0.7%	0	0.0%
White Non-Hispanic	102	63.8%	124	63.6%	89	61.4%	73	64.0%
Two or more races	8	5.0%	14	7.2%	7	4.8%	3	2.6%
Other	0	0.0%	0	0.0%	0	0.0%	1	0.9%
Unknown	4	2.5%	6	3.1%	3	2.1%	6	5.3%

	2012-13		2013-14		2014-15		2015-16	
	N	%	N	%	N	%	N	%
Age < 25	27	16.9%	43	22.1%	40	27.6%	30	26.3%
Age 25 - 49	68	42.5%	74	37.9%	59	40.7%	49	43.0%
Age 50 +	65	40.6%	78	40.0%	46	31.7%	35	30.7%

	2012-13	2013-14	2014-15	2015-16
Median Age	44	41	39	37
Youngest	17	16	17	17
Oldest	80	84	70	78

AWARDS

	Award Type	Award Title	Awards Conferred
2012-13	AA Degree	Office Technology	1
	Certificate	Computer Applications	2
2013-14	AA Degree	Office Technology	1
2015-16	Certificate	Computer Applications	1

2016-17 ANNUAL PROGRAM REVIEW
Computer Applications

COURSE SUCCESS

	2012-13		2013-14		2014-15		2015-16	
	Enrollment	Success	Enrollment	Success	Enrollment	Success	Enrollment	Success
Male	99	85.9%	100	80.0%	72	73.6%	73	82.2%
Female	153	88.9%	169	78.7%	128	88.3%	102	90.2%
Unknown	0	0.0%	1	100.0%	0	0.0%	0	0.0%

	2012-13		2013-14		2014-15		2015-16	
	Enrollment	Success	Enrollment	Success	Enrollment	Success	Enrollment	Success
African American	4	50.0%	0	0.0%	1	100.0%	0	0.0%
Asian	8	87.5%	6	100.0%	16	87.5%	1	100.0%
Hispanic	55	89.1%	54	79.6%	48	91.7%	40	80.0%
Native Amer/Alaska Native	2	100.0%	4	75.0%	0	0.0%	2	50.0%
Pacific Islander	5	100.0%	3	66.7%	1	100.0%	0	0.0%
White Non-Hispanic	157	87.9%	176	83.0%	124	81.5%	116	89.7%
Two or more races	12	83.3%	18	38.9%	8	50.0%	6	100.0%
Other	0	0.0%	0	0.0%	0	0.0%	1	100.0%
Unknown	9	88.9%	9	77.8%	2	50.0%	9	77.8%

	2012-13		2013-14		2014-15		2015-16	
	Enrollment	Success	Enrollment	Success	Enrollment	Success	Enrollment	Success
Age < 25	34	82.4%	47	85.1%	46	80.4%	34	79.4%
Age 25 - 49	105	88.6%	101	78.2%	73	76.7%	76	84.2%
Age 50 +	113	88.5%	122	77.9%	81	90.1%	65	93.8%

	2012-13		2013-14		2014-15		2015-16	
	Enrollment	Success	Enrollment	Success	Enrollment	Success	Enrollment	Success
Dist Ed	21	81.0%	46	78.3%	54	74.1%	47	70.2%
F2F	210	89.0%	197	78.2%	130	89.2%	128	93.0%
Hybrid	21	81.0%	27	88.9%	16	62.5%	0	0.0%

NOTE: Enrollment = duplicated headcount, excluding audits, noncredit, and drops w/ no record.

2016-17 ANNUAL PROGRAM REVIEW
Computer Applications

2016-17 COURSE STATISTICS

% FULL TIME INSTRUCTORS** (2016-17):

% ADJUNCT INSTRUCTORS** (2016-17):

FACE TO FACE	Sections Offered	Cancel %	FT % **	Adjunct % **	Avg Census Enroll	Avg End of Term Enroll	Retention % ***	Success % ***	FTES	WSCH	FTEF	Productivity
		---					0.0%					---
Total		---					0.0%					

DISTANCE EDUCATION	Sections Offered	Cancel %	FT % **	Adjunct % **	Avg Census Enroll	Avg End of Term Enroll	Retention % ***	Success % ***	FTES	WSCH	FTEF	Productivity
CAO-191XC ST: Intro to Google Apps	1	100.0%					0.0%			0		---
Total	1	100.0%					0.0%			0		

* Excludes Summer, noncredit, work experience, internship, and cancelled sections
** Excludes summer assignments. Based on instructional workload and the percentage of workload assigned under full-time contracts versus adjunct contracts
*** Withdrawal and success statistics exclude noncredit classes.

2016-17 ANNUAL PROGRAM REVIEW
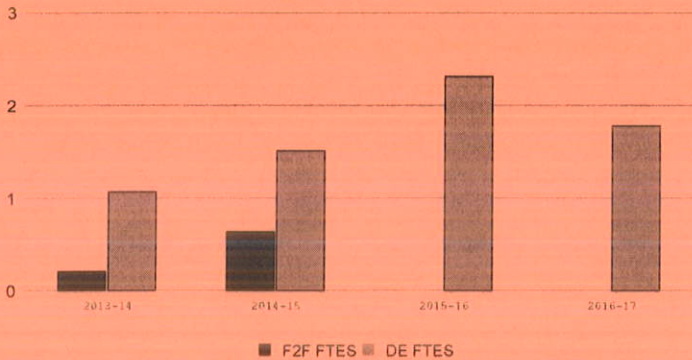
Computer & Information Science

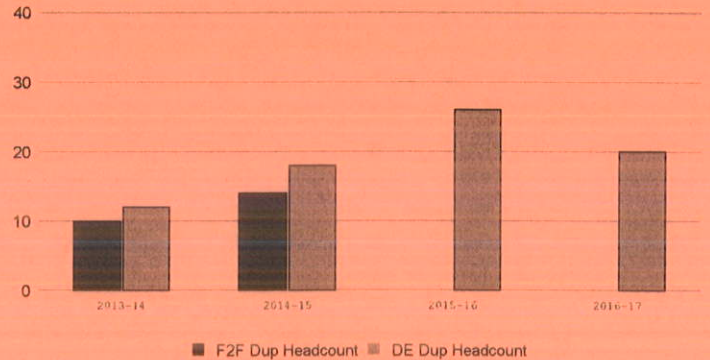## COMPUTER & INFORMATION SCIENCE SUMMARY

This report contains data from Academic Year (AY) 2012 to 2016. Information on program size based on full-time equivalent students (FTES), Student Success, and Student Achievement are presented below.

	Total Sections	F2F Sections	Dist Ed Sections	Total FTES	F2F FTES	Dist Ed FTES	Total Duplicated Headcount	F2F Duplicated Headcount	Dist Ed Duplicated Headcount
2013-14	2	1	1	1.27	0.21	1.07	22	10	12
2014-15	2	1	1	2.15	0.64	1.51	32	14	18
2015-16	2	0	2	2.31	0.00	2.31	26	0	26
2016-17	2	0	2	1.78	0.00	1.78	20	0	20
3-Yr Chg (13-14 to 16-17)	0.0%	-100.0%	100.0%	39.7%	-100.0%	66.7%	-9.1%	-100.0%	66.7%
1-Yr Chg (15-16 to 16-17)	0.0%	---	0.0%	-23.1%	---	-23.1%	-23.1%	---	-23.1%

RESIDENT FTES

F2F FTES ■ DE FTES

DUPLICATED HEADCOUNT

F2F Dup Headcount ■ DE Dup Headcount

Office of Institutional Research and Planning (OIRP)

2016-17 ANNUAL PROGRAM REVIEW
Computer & Information Science

DEMOGRAPHICS

	2013-14		2014-15		2015-16		2016-17	
	N	%	N	%	N	%	N	%
Male	15	68.2%	22	68.8%	16	64.0%	13	72.2%
Female	7	31.8%	10	31.3%	9	36.0%	4	22.2%
Unknown	0	0.0%	0	0.0%	0	0.0%	1	5.6%

	2013-14		2014-15		2015-16		2016-17	
	N	%	N	%	N	%	N	%
African American	0	0.0%	1	3.1%	1	4.0%	5	27.8%
Asian	0	0.0%	1	3.1%	3	12.0%	1	5.6%
Hispanic	2	9.1%	8	25.0%	6	24.0%	2	11.1%
Native Amer/Alaska Native	1	4.5%	1	3.1%	0	0.0%	0	0.0%
White Non-Hispanic	14	63.6%	19	59.4%	14	56.0%	7	38.9%
Two or more races	4	18.2%	2	6.3%	1	4.0%	3	16.7%
Unknown	1	4.5%	0	0.0%	0	0.0%	0	0.0%

	2013-14		2014-15		2015-16		2016-17	
	N	%	N	%	N	%	N	%
Age < 25	16	72.7%	14	43.8%	11	44.0%	10	55.6%
Age 25 - 49	2	9.1%	10	31.3%	11	44.0%	8	44.4%
Age 50 +	4	18.2%	8	25.0%	3	12.0%	0	0.0%

	2013-14	2014-15	2015-16	2016-17
Median Age	22	29	25	25
Youngest	13	14	17	13
Oldest	59	69	66	38

STUDENT ACHIEVEMENT

COMPUTER & INFO SCIENCES (CIS)

SUMMARY

This report contains data related to student achievement, represented by the number of degrees and certificates awarded by the Computer & Info Sciences Department.

Year	Award Type	Title	# of Awards
2012-13	AA Degree	Web Development	5
	Certificate	Web Development	4
		2012-13 TOTAL	9
2013-14	AA Degree	Web Development	5
	Certificate	Web Development	1
		2013-14 TOTAL	6
2014-15	AA Degree	Web Development	1
	Certificate	Web Development	2
		2014-15 TOTAL	3
2015-16	AA Degree	Web Development	1
	Certificate	Web Development	2
		2015-16 TOTAL	3

2016-17 ANNUAL PROGRAM REVIEW
Computer & Information Science

COURSE SUCCESS

	2013-14		2014-15		2015-16		2016-17	
	Enrollment	Success	Enrollment	Success	Enrollment	Success	Enrollment	Success
Male	15	66.7%	21	81.0%	13	92.3%	14	57.1%
Female	7	85.7%	9	88.9%	8	100.0%	3	33.3%

	2013-14		2014-15		2015-16		2016-17	
	Enrollment	Success	Enrollment	Success	Enrollment	Success	Enrollment	Success
African American	0	0.0%	1	0.0%	1	0.0%	3	33.3%
Asian	0	0.0%	1	100.0%	3	100.0%	1	0.0%
Hispanic	2	50.0%	7	85.7%	3	100.0%	2	50.0%
Native Amer/Alaska Native	1	100.0%	1	100.0%	0	0.0%	0	0.0%
White Non-Hispanic	14	64.3%	18	83.3%	12	100.0%	7	57.1%
Two or more races	4	100.0%	2	100.0%	2	100.0%	4	75.0%
Unknown	1	100.0%	0	0.0%	0	0.0%	0	0.0%

	2013-14		2014-15		2015-16		2016-17	
	Enrollment	Success	Enrollment	Success	Enrollment	Success	Enrollment	Success
Age < 25	16	68.8%	13	84.6%	7	100.0%	9	66.7%
Age 25 - 49	2	50.0%	10	70.0%	11	90.9%	8	37.5%
Age 50 +	4	100.0%	7	100.0%	3	100.0%	0	0.0%

	2013-14		2014-15		2015-16		2016-17	
	Enrollment	Success	Enrollment	Success	Enrollment	Success	Enrollment	Success
Dist Ed	12	50.0%	16	68.8%	21	95.2%	17	52.9%
F2F	10	100.0%	14	100.0%	0	0.0%	0	0.0%

NOTE: Enrollment = duplicated headcount, excluding audits, noncredit, and drops w/ no record.

2016-17 COURSE STATISTICS

COMPUTER & INFORMATION SCIENCE PRODUCTIVITY* (2016-17):	160
% FULL TIME INSTRUCTORS** (2016-17):	0%
% ADJUNCT INSTRUCTORS** (2016-17):	100%

FACE TO FACE	Sections Offered	Cancel %	FT % **	Adjunct % **	Avg Census Enroll	Avg End of Term Enroll	Retention % ***	Success % ***	FTES	WSCH	FTEF	Productivity
CIS-191AJ ST: Intro/Pers Comp Security	1	100.0%					0.0%					---
Total	**1**	**100.0%**					**0.0%**					

DISTANCE EDUCATION	Sections Offered	Cancel %	FT % **	Adjunct % **	Avg Census Enroll	Avg End of Term Enroll	Retention % ***	Success % ***	FTES	WSCH	FTEF	Productivity
CIS-103A Computer Game Design I	1	0.0%	0%	100%	11.0	9.0	81.8%	44.4%	0.98	44	0.08	176.00
CIS-103B Computer Game Design II	1	100.0%					0.0%			0		---
CIS-191AK ST: Python Programming	1	0.0%	0%	100%	9.0	8.0	88.9%	62.5%	0.80	36	0.08	144.00
Total	**3**	**33.3%**	**0%**	**100%**	**10.0**	**8.5**	**85.0%**	**52.9%**	**1.78**	**80**	**0.17**	

Excludes Summer, noncredit, work experience, internship, and cancelled sections
**Excludes summer assignments. Based on instructional workload and the percentage of workload assigned under full-time contracts versus adjunct contracts*
***Withdrawal and success statistics exclude noncredit classes.*

2016-17 ANNUAL PROGRAM REVIEW
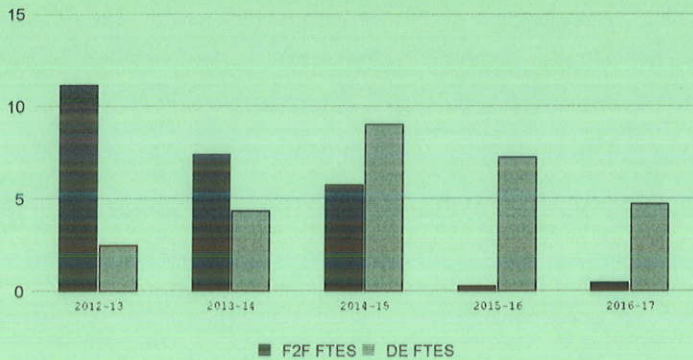## Web Development, Network, Hardware, and IT

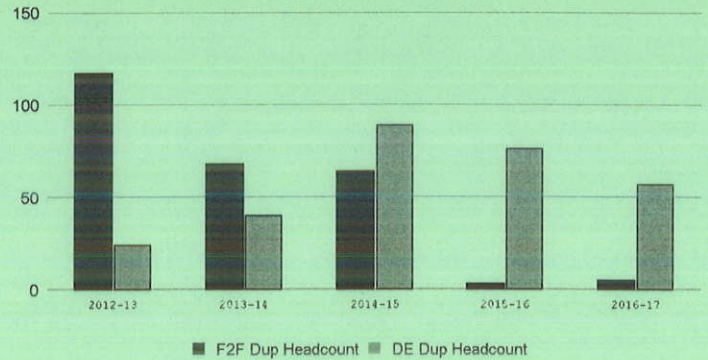## WEB DEVELOPMENT, NETWORK, HARDWARE, AND IT SUMMARY

This report contains data from Academic Year (AY) 2012 to 2016. Information on program size based on full-time equivalent students (FTES), Student Success, and Student Achievement are presented below.

	Total Sections	F2F Sections	Dist Ed Sections	Total FTES	F2F FTES	Dist Ed FTES	Total Duplicated Headcount	F2F Duplicated Headcount	Dist Ed Duplicated Headcount
2012-13	12	10	2	13.58	11.14	2.45	141	117	24
2013-14	13	9	4	11.71	7.38	4.33	108	68	40
2014-15	17	9	8	14.74	5.73	9.00	153	64	89
2015-16	5	1	4	7.49	0.27	7.22	79	3	76
2016-17	7	2	5	5.16	0.44	4.71	62	5	57
4-Yr Chg (12-13 to 16-17)	-41.7%	-80.0%	150.0%	-62.0%	-96.0%	92.7%	-56.0%	-95.7%	137.5%
1-Yr Chg (15-16 to 16-17)	40.0%	100.0%	25.0%	-31.2%	66.7%	-34.8%	-21.5%	66.7%	-25.0%

RESIDENT FTES

F2F FTES DE FTES

DUPLICATED HEADCOUNT

F2F Dup Headcount DE Dup Headcount

Office of Institutional Research and Planning (OIRP)

2016-17 ANNUAL PROGRAM REVIEW
Web Development, Network, Hardware, and IT

DEMOGRAPHICS

	2012-13		2013-14		2014-15		2015-16		2016-17	
	N	%	N	%	N	%	N	%	N	%
Male	51	68.0%	44	75.9%	57	80.3%	42	77.8%	31	63.3%
Female	24	32.0%	14	24.1%	13	18.3%	12	22.2%	18	36.7%
Unknown	0	0.0%	0	0.0%	1	1.4%	0	0.0%	0	0.0%

	2012-13		2013-14		2014-15		2015-16		2016-17	
	N	%	N	%	N	%	N	%	N	%
African American	0	0.0%	2	3.4%	0	0.0%	1	1.9%	2	4.1%
Asian	5	6.7%	1	1.7%	5	7.0%	2	3.7%	1	2.0%
Hispanic	11	14.7%	9	15.5%	15	21.1%	8	14.8%	13	26.5%
Native Amer/Alaska Native	0	0.0%	1	1.7%	1	1.4%	0	0.0%	0	0.0%
White Non-Hispanic	54	72.0%	41	70.7%	41	57.7%	32	59.3%	29	59.2%
Two or more races	3	4.0%	2	3.4%	5	7.0%	10	18.5%	2	4.1%
Other	0	0.0%	0	0.0%	1	1.4%	0	0.0%	1	2.0%
Unknown	2	2.7%	2	3.4%	3	4.2%	1	1.9%	1	2.0%

	2012-13		2013-14		2014-15		2015-16		2016-17	
	N	%	N	%	N	%	N	%	N	%
Age < 25	31	41.3%	22	37.9%	37	52.1%	27	50.0%	26	53.1%
Age 25 - 49	28	37.3%	29	50.0%	25	35.2%	23	42.6%	22	44.9%
Age 50 +	16	21.3%	7	12.1%	9	12.7%	4	7.4%	1	2.0%

	2012-13	2013-14	2014-15	2015-16	2016-17
Median Age	28	27	23	26	26
Youngest	12	13	15	16	14
Oldest	68	67	68	64	57

2016-17 ANNUAL PROGRAM REVIEW
Web Development, Network, Hardware, and IT

2016-17 COURSE STATISTICS

WEB DEVELOPMENT, NETWORK, HARDWARE, AND IT PRODUCTIVITY* (2016-17):	180
% FULL TIME INSTRUCTORS** (2016-17):	0%
% ADJUNCT INSTRUCTORS** (2016-17):	100%

FACE TO FACE		Sections Offered	Cancel %	FT % **	Adjunct % **	Avg Census Enroll	Avg End of Term Enroll	Retention % ***	Success % ***	FTES	WSCH	FTEF	Productivity
CIS-135A	Introduction to GIS	1	0.0%			3.0	3.0	100.0%	100.0%	0.27	12	0.00	---
CIS-135B	Intermediate GIS	1	0.0%	0%	100%	2.0	2.0	100.0%	100.0%	0.18	8	0.08	32.00
Total		2	0.0%	0%	100%	2.5	2.5	100.0%	100.0%	0.44	20	0.08	

DISTANCE EDUCATION		Sections Offered	Cancel %	FT % **	Adjunct % **	Avg Census Enroll	Avg End of Term Enroll	Retention % ***	Success % ***	FTES	WSCH	FTEF	Productivity
CIS-100	Web Publ w/Authoring Software	1	0.0%	0%	100%	4.0	3.0	75.0%	100.0%	0.27	20	0.10	64.00
CIS-101	Graphics for the Web	1	0.0%	0%	100%	5.0	2.0	40.0%	100.0%	0.44	25	0.10	80.00
CIS-112	Web Publish Using HTML & CSS	1	0.0%			7.0	7.0	100.0%	100.0%	0.62	35	0.12	97.39
CIS-113	Client-Side Script for Web	1	100.0%					0.0%			0		---
CIS-114	Data-Driven Web Sites	1	100.0%					0.0%			0		---
CIS-115	Current Technlgy Web Developmt	1	100.0%					0.0%			0		---
CIS-120A	Computer Programming I	1	0.0%	0%	100%	29.0	24.0	82.8%	66.7%	2.40	145	0.10	464.00
CIS-120B	Computer Programming II	1	0.0%	0%	100%	12.0	12.0	100.0%	83.3%	0.98	60	0.10	192.00
CIS-120C	Computer Programming III	1	100.0%					0.0%			0		---
Total		9	44.4%	0%	100%	11.4	9.6	84.2%	79.2%	4.71	285	0.54	

* Excludes Summer, noncredit, work experience, internship, and cancelled sections
** Excludes summer assignments. Based on instructional workload and the percentage of workload assigned under full-time contracts versus adjunct contracts
*** Withdrawal and success statistics exclude noncredit classes.

CALIFORNIA COMMUNITY COLLEGES

IT TECHNICIAN
PATHWAY

Start your IT career in a matter of months

TRAINING ✚ **CERTIFICATIONS** ✚ **EXPERIENCE**

Many entry-level jobs in information technology (IT) don't require a 4-year degree. Get training, get certified and get a job.

PHASE 1

Computer Retail Sales

Learn fundamental IT, business and customer service skills by taking the first six IT Technician Pathway courses and the CompTIA A+ Certification exam.

PHASE 2

Help Desk / User Support

Learn about computer networks, client and server operating systems, and cyber-security, preparing you for key industry certifications, and job opportunities in Help Desk/User Support.

PHASE 3

IT Technician

Phase 3 adds advanced networking and system administration course work and certifications, which can lead to higher skilled, and better paying IT positions.

PHASE 4

IT Specialization

Specialization areas allow you to build upon prior experience, training and certifications by taking courses that teach highly marketable job skills, in Cybersecurity and Networking.

It all links together for a career in IT.

https://ict-dm.net/ittp

CALIFORNIA COMMUNITY COLLEGES

IT TECHNICIAN
PATHWAY

> " The California Community College IT Technician Pathway program describes an effective balance of training, certifications and experience to develop IT Professionals without a 4-year degree...
>
> **James Brady, PhD, FHIMSS, Chief Information Officer, Kaiser Permanente Orange County, Information Technology** "

	COURSE	CERTIFICATION	JOB
PHASE 1	• Introduction to Retail or Business Fundamentals • Customer Service/Human Relations • Business Communications • Microsoft Office Essentials • Information & Communications Technology Essentials • Business Information Systems/Computer Information Systems	▶ A+	**Computer Retail Sales**
PHASE 2	• Computer Network Fundamentals • Systems and Network Administration (Network Operating Systems) • Installing, Configuring, and Administering a Microsoft OS • Introduction to Information Security Systems	▶ Network+ ▶ MCSA Server 2016 ▶ MCTS: Win 10 ▶ Security+	**Help Desk/User Support**
PHASE 3	• Routing & Switching Essentials • Installing, Configuring, and Administering Linux Operating System • Introduction to Scripting (Python/PowerShell)	▶ Cisco CCENT ▶ Linux+	**IT Technician**

PHASE 4 – SPECIALIZATIONS

CYBERSECURITY SPECIALIST	CERTIFICATION	JOB
• Principles of Cybersecurity Analysis	▶ CSA+	**Computer Security Analyst**
• Introduction to Computer Forensics Investigations	▶ IACIS CFCE	**Computer Forensic Investigator**
• Introduction to Cybersecurity: Ethical Hacking	▶ EC Council CEH	**Penetration Tester**
• Implementing Cisco Network Security	▶ CCNA Security	**Network Security Specialist**
• Certified Information Systems Security Professional	▶ CISSP	**Cybersecurity Consultant**

IT NETWORKING SPECIALIST	CERTIFICATION	JOB
• CCNA Scaling Networks	▶ CCNA Routing & Switching	**Network Administrator**
• CCNA Connecting Networks	▶ CCNA Routing & Switching	**Network Administrator**
• Cisco Wireless Network Fundamentals	▶ CCNA Wireless	**Wireless Network Administrator**
• Firewall Essentials	▶ Palo Alto Networks ACE	**Network Engineer**

See www.ict-dm.net/ittp for more information.

>> **Expanded Pathway Now Includes Advanced Stages**

CALIFORNIA COMMUNITY COLLEGES

Business Information Worker

PATHWAY TO SUCCESS

STAGE ONE

Keyboarding

Microsoft Windows

Microsoft Word

Microsoft Excel

Microsoft Outlook

Information Systems

Business Communications

Human Relations/Customer Service

STAGE TWO

Microsoft PowerPoint

Microsoft Excel, Intermediate

Microsoft Access or

Introduction to SharePoint

Quickbooks

Electronic Records Management

Customer Relationship Management

SPECIALIST

Presentation/Marketing

Communication Support

Project Management Concepts

Salesforce Certification Prep

The Business Information Worker pathway has expanded to include Stage Two and Specialist options. A statewide survey of 400 small businesses validated the top skills needed for the now complete BIW pathway.

Professional certifications, including the newly offered Microsoft Office Specialist Digital Badges, align with many of the BIW skill sets. Links to exam information can be found on the updated website at www.ict-dm.net/biw.

With 66% of the California Community Colleges already on board, now is the time to list your BIW pathway courses to be included in our statewide marketing and communications plan to businesses and placement agencies.

Learn More

www.ICT-DM.net/BIW

biw@ict-dm.net

The Information and Communication
Technologies & Digital Media
Sector Navigation Team

CALIFORNIA COMMUNITY COLLEGES

2016-17

STUDENT LEARNING OUTCOME ASSESSMENT SUMMARY

COMPUTER INFORMATION SCIENCES/COMPUTER APPLICATIONS
THERE WERE TWO ASSESSMENT REPORTS COMPLETED IN 2016-17:

COURSE CODE AND TITLE	INSTRUCTOR	QUARTER	RESULTS
CIS 103A	Jesse Cecil	Fall 2016	Sadly, several students either dropped the course or did not continue with the course by turning in assignments. I will work on retaining more students by directly contacting them if they miss an assignment.
CIS 101	Amber Tanaka	Spring 2017	This course requires a major redesign as the required software "Adobe Fireworks" became obsolete in 2012. This should be part of the larger redesign project for the entire web development track as I have recommended since 2013, and have discussed and submitted proposals to Brad Deeds for consideration during the last ten months.