Merritt College
2017-2018 Annual Program Update Template

Merritt College Data Profile: Fall 2016 and Spring 2017

*Note: Headcount is unduplicated number of students per term. Retention and Success is based on Enrollments, which are duplicated.

Headcount by Gender	*Fall 2016*		*Spring 2017*	
Female	4514	64%	4742	64%
Male	2396	34%	2485	34%
Unknown/Unreported	133	2%	132	2%
Headcount by Race/Ethnicity				
American Indian	29	0%	26	0%
Asian	1129	16%	1227	17%
Black / African American	1903	27%	1864	25%
Hispanic / Latino	2064	29%	2195	30%
Pacific Islander	47	1%	42	1%
Two or More	369	5%	384	5%
Unknown / NR	341	5%	381	5%
White	1161	16%	1240	17%
Headcount by Age				
Under 16	38	1%	100	1%
16-18	808	11%	764	10%
19-24	2430	35%	2552	35%
25-29	1186	17%	1255	17%
30-34	766	11%	775	11%
35-54	1296	18%	1401	19%
55-64	327	5%	315	4%
65 & Above	192	3%	197	3%
Total Headcount	7043		7359	

	Fall 2016		*Spring 2017*	
Gender	Retention %	Success %	Retention %	Success %
Female	78%	66%	79%	70%
Male	78%	65%	79%	68%
Unknown/Unreported	83%	72%	82%	75%
Race/Ethnicity	Retention %	Success %	Retention %	Success %
American Indian	83%	77%	74%	60%
Asian	83%	76%	84%	78%
Black / African American	73%	57%	74%	60%
Hispanic / Latino	76%	65%	80%	70%
Pacific Islander	79%	69%	80%	74%
Two or More	77%	65%	78%	66%
Unknown / NR	82%	69%	83%	72%
White	85%	78%	85%	78%
Age Range	Retention %	Success %	Retention %	Success %
Under 16	82%	82%	94%	89%
16-18	78%	65%	82%	74%
19-24	75%	62%	76%	65%
25-29	77%	66%	79%	70%
30-34	82%	71%	81%	71%
35-54	81%	70%	82%	74%
55-64	83%	71%	85%	73%
65 & Above	84%	78%	85%	72%

Distance Education

Retention and Success by Distance Ed	Fall 2016		Spring 2017	
	Retention %	Success %	Retention %	Success %
100% online	70%	62%	74%	59%
Hybrid	69%	53%	74%	61%
Face to Face	80%	69%	81%	72%

I. Program Information

Purpose: This section will identify basic information about your program. 2015-2016 Program reviews and 2016-2017 APU can be found at: http://www.merritt.edu/wp/institutional-research/program-review/

Program Name: Computer Information Systems (CIS)

Date: 10/13/2017

Program Type (circle or highlight one): **(X) Instructional** **Non-Instructional** **Student Services or Special Programs** **Administrative Unit**

College Mission Statement: The mission of Merritt College is to enhance the quality of life in the communities we serve by helping students to attain knowledge, master skills, and develop the appreciation, attitudes and values needed to succeed and participate responsibly in a democratic society and a global economy.

Program Mission: The Merritt College Computer Information Systems program prepares students for entry-level positions in Information Systems (IS), Information Technology (IT), and Computer Science (CS). It also offers first level Computer Science courses that are articulated with the CSU and UC systems supporting transfer outcomes. Associate in Science degrees and Certificates of Achievement are offered in Applications Security and Infrastructure Security.

The CIS Department is part of a comprehensive, multi-cultural, public, open-access institution with a mission to develop and sustain effective partnerships with business, governmental, and community agencies to foster economic development and workforce preparation for its students. We directly address efforts to increase CTE participation by two underserved cohorts identified in the Educational Master Plan for Merritt College: "Starting the Journey" 12-24 years old and "Enriching Life" 55years and older. We have developed a strategy to engage students through local schools, Comunity Benefit Organizations (CBOs), and career pathway partnerships.

Date of Last Comprehensive Program Review: 11/5/2015

Date of Comprehensive Program Review Validation: 11/5/2015

II. Reporting Progress on Attainment of Program Goals

Purpose: In this section, you will look at your goals stated in the 2015-2016 program review and 2016-2017 APU, align the program goals with the District and College Goals, and report on the progress, revision, or completion of the program goals.

Program Goal *Copy the Goals Reported from Program Review Question 10 or Appendix B, or 16-17 APU Section II or input the new/revised goal. These are suggested categories of goals.	**Which institutional goals will be advanced upon completion?** (PCCD and MC Goal Mapping)	**Progress on Goal** (indicate date next to the appropriate status for the goal)	**Goal Detail and Measurement – How did you/will you evaluate this Goal?** (If your goal was **completed**: How did you **evaluate** or determine the **outcome**? If your goal is **ongoing**: What is your **measure** and **target**? If your goal is **new or revised**: What is your **measure and target**?)
Assessment Assessment: Assess a different SLO each time a course is taught. Coordinate among instructors to select SLOs that map to different PLOs each offering. Aim for complete SLO/PLO/ILO coverage each Program Review Cycle.	1. PCCD Goal: D,E 2. Merritt Goal Governance & Institutional Communication	Completed: 12/2015 (date) Revised: 6/2016 (date) Ongoing: 10/2015 (date) New Goal 6/10/2017 (current date)	• Fall 2015 all program courses Mapped from Curricunet through Taskstream for SLO/PLO/ILO alignment. • 2016 (Spring, Summer, Fall) revisions to CIS/Cybersecurity CoR to incorporate updates to curriculum and instruction per IAB in instructors. • Update Curricunet/Taskstream to reflect revised COR/SLO. • Spring 2017 Achieved 100% Assessment

Program Goal *Copy the Goals Reported from Program Review Question 10 or Appendix B, or 16-17 APU Section II or input the new/revised goal. These are suggested categories of goals.	**Which institutional goals will be advanced upon completion?** (PCCD and MC Goal Mapping)	**Progress on Goal** (indicate date next to the appropriate status for the goal)	**Goal Detail and Measurement – How did you/will you evaluate this Goal?** (If your goal was **completed**: How did you **evaluate** or determine the **outcome**? If your goal is **ongoing**: What is your **measure** and **target**? If your goal is **new or revised**: What is your **measure and target**?)
Curriculum (if applicable) Revise courses to better align with C-ID descriptors and support transfer. Add courses that use existing course sequences to create new degrees/certificate. Address need for Computer Science discipline and program.	1. PCCD Goal: A,B 2. Merritt Goal Student Access Equity and Successs	Completed: 6/30/2018 (date) Revised/New: 10/13/2017 (date) Ongoing: 10/13/2017 (date)	• CIS 033 Software Architecture & Algorithms approved 6/13/2017 for CS AS-T Degree • CIS 078 Digital Architectures for Computation approved 6/13/2017 for CS AS-T Degree • Fall 2017: Create CIS 007 Control Structures and Objects to complete the CS AS-T degree. • Create PCCD Computer Science discipline fulfilling NSF INCLUDES and STEM/Core
Instruction (if applicable) Update & revise transfer level CS courses revised to support hybrid offerings. Online course material leveraged for both lecture and DE. All revised course outlines include DE addenda. Leverage regional resources to reduce per-capita cost of instruction. Add courses in mobile application development in fulfillment of regional grant. Deploy local infrastructure to	1. PCCD Goal: A,D,E 2. Merritt Goal Improve Student Access, Equity, Innovation & Resource utilization	Completed: 6/30/2018 (date) Revised/New: 10/13/2017 (date) Ongoing: 10/13/2017 (date)	• Hybrid offerings add flexibility to student schedules supporting retention and program completion. • Updates of CoR to support DE improve materials and accessibility for all students. • Offer transfer level courses through Dual Enrollment MOU. • Update & reactivate Web Site/App/Publishing CoR and program.

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permit instruction in mobile application Development			• 2016 WASTC/BCC Professional Development - Created Mobile Application Development Vitual Machine. This enables PCCD instruction in Mobile Software Development • 2017 WASTC/BACCC summer Professional Development Netlab VE Administration permits configuration of PCCD VM host • CIS 093 Cross Platform Mobile Application course approved 10/2/2017
Student Success and Student Equity Update instructional equipment to provide real-world scenarios and sharpen Computer Science & Cyberseccurity skills. Equity Embed student support services as part of the curriculum. Provide opportunities to demonstrate Knowledge Skills and Abilities (KSA) through cyber competition, showcases, and employer. Provide up-to-date access	1. PCCD Goal: C,A 2. Merritt Goal_ Create/Implement Innovative Effective Programs, Advance student success _____	Completed: 6/30/2018 (date) Revised/New: 10/13/2017_ (date) Ongoing: 10/13/2017 (date)	• Hosted first Industry Employer Day at Merritt where cybersecurity students could informally meet potential employers and have quic • Sent two teams to National Cyber League (NCL) competition each placing 4th in their bracket of 125 schools • Brought in industry and Subject Matter Experts (SME) to coach NCL teams. • Gained sponsored school status with Facebook for Merritt College providing extracurricular

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to facilities and DSP accommodations.			funding, access to internships & co-ops • With support of Facebook brought 12 students to Black Hat security conference and Reception with • Hosted Cyberpatriot summer camp for 30 K12 students providing education & competition challenges • Creating additional cyberpatriot activities Fall 2017 and Spring 2018, monitoring attendees and activity outcomes such as participation in cyberpatriot leagues.
Professional Development, Institutional and Professional Engagement, and Partnerships Continue engagement with industry advisory board (CISE). Expand to include Oakland Chamber of Commerce, Growth Sector in formulating partnerships with employers and program opportunities for students. Recruit and cultivate	1. PCCD Goal: B,E 2. Merritt Goal Engage and Leverage Partners, Develop Human, Fiscal and Technological resources	Completed: 12/31/2018 (date) Revised/New: 10/13/2017 (date) Ongoing: 10/13/2017 (date)	• Completed MOU with Oakland Technology Exchange (OTX) to equipping Cybersecurity students, ASMC club !NULL, and Cyberpatriot camp students with an adequate computers. • Work with Growth Sector, Alameda WIB, and Lawrence Livermore National Laboratories (LLNL) to create a Cyberdefenders projet on Merritt Campus where students can work on Employer specific projectw. • Utilize PCCD Faculty Diversity Internship

Program Goal *Copy the Goals Reported from Program Review Question 10 or Appendix B, or 16-17 APU Section II or input the new/revised goal. These are suggested categories of goals.	**Which institutional goals will be advanced upon completion?** (PCCD and MC Goal Mapping)	**Progress on Goal** (indicate date next to the appropriate status for the goal)	**Goal Detail and Measurement – How did you/will you evaluate this Goal?** (If your goal was **completed**: How did you **evaluate** or determine the **outcome**? If your goal is **ongoing**: What is your **measure** and **target**? If your goal is **new or revised**: What is your **measure and target**?)
department instructors.			Program (FDIP) to cultivate STEM instructor gender diversity. • Leverage PCCD instruction in Education Technology (EDT) to improve Distance Education Skills among faculty. • Leverage BACCC faculty development conferences to add skills to Merritt CIS dept.
Other Goals Community engagement through non-academic outreach and early (K-8) engagement.	1. PCCD Goal: B,A 2. Merritt Goal Engage Community, Improve Access and Equity, Build programs of distinction	Completed: 6/30/2017 (date) Revised/New: 6/30/2018 (date) Ongoing: 10/13/2017 (date)	• Elevated program visibility and awareness via Merritt's National Cyber League team !NULL, chartered with ASMC gaining support and sponsorships. • Build on successful season through club outreach through Merritt's Dual Enrollment partner school Oakland Tech, and alignment with CyberPatriot (K-8) activities. • Create a CIS Challenge Practicum lab course enabling students to practice the kind of challenges employers use to identife candidates with specific Knowledge Skills and Abilities (KSA) • Create fall and spring semester Cyberpatriot

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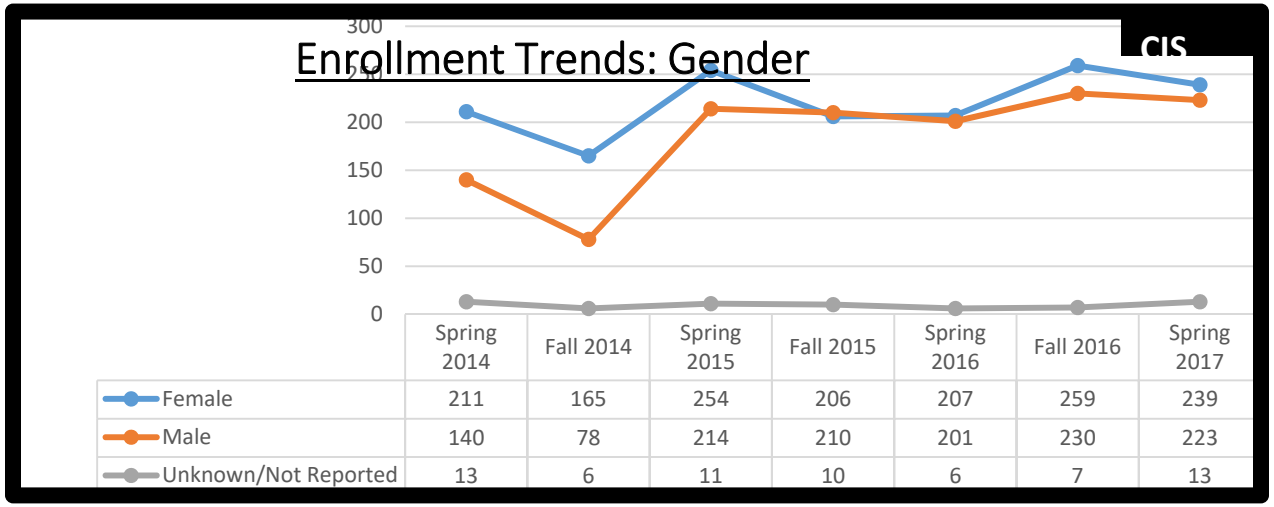
			outreach activities such as competitions, tutorials, and bootcamps.

III. Data Trend Analysis

Purpose: In this section, you will report, review and reflect on your program data. You may copy and paste the tables that were provided to you in your data packet via email.

Please review and reflect upon the data for your program that was sent via email or Dropbox. You will be asked to comment on significant changes in the data and/or achievement gaps. Focus upon the most recent academic year and/or the years since your last comprehensive program review. **If you have questions or concerns regarding your data, please contact Samantha Kessler, Research and Planning Officer: skessler@peralta.edu.*

Student Enrollment Demographics:



	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017
Female	211	165	254	206	207	259	239
Male	140	78	214	210	201	230	223
Unknown/Not Reported	13	6	11	10	6	7	13

Enrollment Trends: Race/Ethnicity

	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017
American Indian	1	2	3		2	3	3
Asian	45	49	85	93	80	96	93
Black / African American	142	84	142	154	138	157	141
Hispanic / Latino	90	51	157	82	96	117	102
Pacific Islander	2	1	4	3	2	2	2
Two or More	18	14	19	18	18	21	21
Unknown / NR	19	11	21	25	28	25	26

Enrollment Trends: Age

	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017
Under 16	1		1			1	1
16-18	8	4	22	10	10	26	13
19-24	65	57	81	92	76	97	86
25-29	49	42	72	65	58	88	68
30-34	50	28	46	49	50	41	53
35-54	59	41	79	93	76	84	88
55-64	17	12	21	21	26	32	25
65 & Above	3		1	1	3	3	8

Enrollment Trends: Age

	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017
Under 16	1		1			1	1
16-18	8	4	22	10	10	26	13
19-24	65	57	81	92	76	97	86
25-29	49	42	72	65	58	88	68
30-34	50	28	46	49	50	41	53
35-54	59	41	79	93	76	84	88
55-64	17	12	21	21	26	32	25
65 & Above	3		1	1	3	3	8

Special Populations Enrollments By Term

CIS

# Enrollments / Term	Low Income Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017
Not Low Income	83	56	119	98	13	37	22
Undetermined	3	12	13	38	253	243	271
Low Income	166	116	191	195	33	92	49

# Enrollments / Term	DSPS Status Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017
DSPS Students	18	18	22	24	20	32	16
Non DSPS Students	234	166	301	307	279	340	326

# Enrollments / Term	Foster Youth Status Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017
Not Foster Youth	244	181	318	325	292	365	338
Foster Youth	8	3	5	6	7	7	4

# Enrollments / Term	Veteran Students Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017
Non Veterans	245	177	309	320	290	358	325
Veterans	7	7	14	11	9	14	17

1. **What changes have occurred in enrollment since 2015-2016 program review?**

We have seen growth in specific population such as veterans through outreach to Merritt's Veteran Services. To grow this constituency we have made specific outreach to the Department of Defense, ensuring that our DUNS number is on their registry and qualifying students for reimbursement of tuition and fees. We are seeing higher enrollment in our program entry courses CIS 005, CIS 006, CIS 071, and CIS 072 which should help sustain higher enrollment in our second year courses such as CIS 059, CIS 056, and CIS 057.

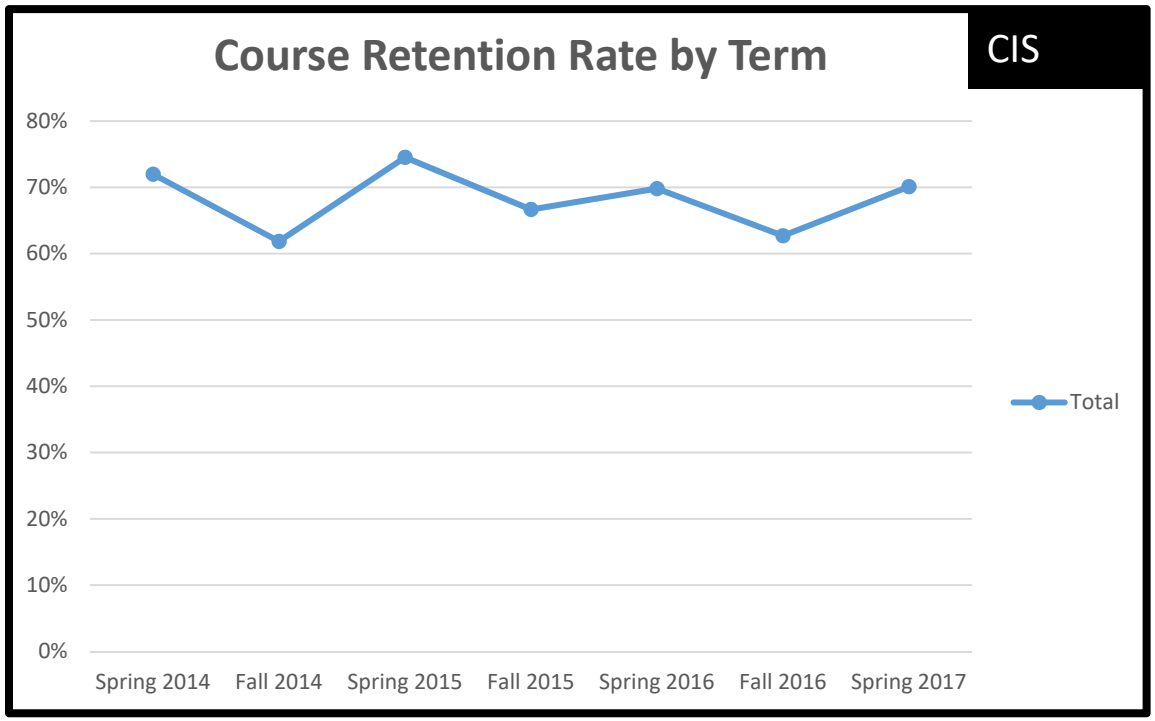
Course Sections and Productivity:

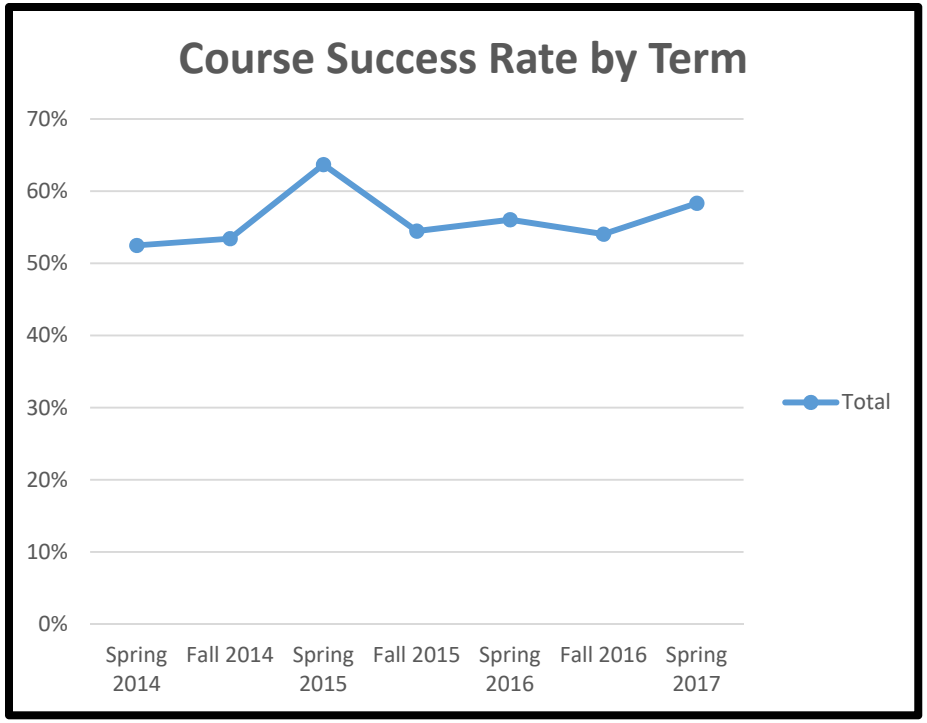
Fall 2014		Spring 2015		Fall 2015		Spring 2016		Fall 2016		Spring 2017	
# Sections	Prod.	# Sections	Prod.	# Sections	Prod.	# Sections	Prod.	# Sections	Prod.	# Sections	Prod.
2	21.94	5	22.65	3	17.41	3	17.04	3	20.19	3	15.02
3	19.21	4	21.23	4	18.83	3	20.28	4	19.21	4	14.72
		1	14.44								
				1	13.89						
1	13.33	1	8.89	1	10.00			1	9.44	1	13.89
1	17.78	1	14.44	1	17.78	1	15.00	1	15.56	1	11.11
1	14.22	1	16.95	1	13.67	1	11.48	1	16.40	1	13.12
						1	11.15			1	7.78
				1	10.71			1	13.10		
				1	23.62			1	12.40		
										1	5.50
		1	19.54			1	17.08			1	23.35
				1	7.39			1	8.52		
						1	5.11			1	3.98
						1	9.68			1	6.25
				1	5.50			1	2.97		
						1	18.59	1	31.27	1	20.78
						1	9.11			1	19.93
		1	15.21	1	8.22			1	18.75		
		1	10.69	1	13.64	1	6.82	1	13.07	1	6.83
8	**17.91**	**16**	**18.32**	**17**	**14.14**	**15**	**13.70**	**17**	**16.59**	**18**	**13.34**

1. **Please comment on changes that have occurred in productivity since the 2015-2016 program review. (**e.g. increase, decrease or no change) We saw a drop in productivity when our new Cybersecurity programs was introduced in 2015 and not yet widely known. We have

been building enrollment through direct outreach to high school students, veterans, and underemployed workforce. We have gained notoriety through our students' strong performance in national competition. Our first ever National Cyber Leage (NCL) team took second place in their bracket of about 130 schools including 4 year universities. We fielded two teams in our ur second NCL season in two different brackets, bronze and silver, and each team took 4th place in their bracket beating out our sister school Cal State East Bay. We one of these teams was the first all female team to ever compete in the NCL. We are starting to see the effect of promotion through participation in NCL competition reflected in stronger enrollment in our first year classes, and it will take a semester or two before it impacts the enrollment in second year classes.

Student Success:




Course Success Rate by Term
70%
60%
50%
40%
30%
20%
10%
0%
Spring 2014
Fall 2014
Spring 2015
Fall 2015
Spring 2016
Fall 2016
Spring 2017
Total

Subject	CIS

	Term													
	Retention %							Success %						
Course Description	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017
Applications in Info Security				91%		83%					55%		67%	
Cloud Security Fundamentals				80%		70%					80%		70%	
Computer Forensics Fundamental					69%		89%					50%		71%
COMPUTER LITERACY	72%	68%	77%	64%	71%	70%	72%	47%	55%	62%	49%	64%	63%	66%
DATABASE MANAGEMENT	59%	50%	63%	58%		35%	64%	50%	46%	56%	47%		29%	60%
E-COMMERCE WEB SITE				68%							64%			
Hacker Guard – Baseline Traini					94%		100%					94%		91%
Hacker Techniques & Exploits			76%		87%		75%			74%		70%		61%
INTRO COMPUTER PRGM					50%	33%	61%					18%	14%	29%
INTRO COMPUTER SCI	71%	50%	58%	56%	86%	50%	33%	71%	50%	48%	56%	76%	47%	17%

INTRO TO CIS	68%	72%	80%	64%	58%	65%	70%	65%	65%	74%	51%	47%	57%	63%
Intro to Info System Security			74%	83%		76%				63%	83%		67%	
Intro to Info Tech Proj Manag					55%		57%					30%		7%
Intrusion Detection In-Depth:				95%		86%					95%		71%	
IT Security Goals, Strategy					92%		100%					76%		100%
Secure Coding in Java and .NET				86%		60%					29%		33%	
SPREADSHEET APPLICATIONS	84%	38%	42%	44%	59%	48%	50%	39%	31%	27%	34%	37%	48%	50%
Systems and Network Admin			83%	75%	92%	87%	83%			61%	50%	92%	83%	75%
Web Application PEN Testing					89%		86%					56%		43%
WWW PUBLISHING I	74%		73%					54%		50%				
Total Rates by Subject and Term	**72%**	**62%**	**75%**	**67%**	**70%**	**63%**	**70%**	**52%**	**53%**	**64%**	**54%**	**56%**	**54%**	**58%**

Gender	Retention % Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017	Success % Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017
Female	73%	61%	70%	62%	67%	61%	63%	47%	52%	61%	50%	53%	53%	54%
Male	71%	65%	79%	72%	73%	64%	77%	61%	60%	67%	60%	58%	55%	61%
Unknown/Not Reported	62%	33%	82%	60%	83%	86%	92%	46%	17%	55%	50%	83%	71%	92%

Subject	CIS

Retention and Success By Race/Ethnicity

	Term													
Race/Ethnicity	Retention % Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017	Success % Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017
American Indian	100%	100%	100%		50%	33%	0%	0%	100%	33%		50%	33%	0%
Asian	87%	73%	71%	80%	75%	73%	77%	80%	69%	65%	72%	65%	67%	70%
Black / African American	68%	49%	70%	64%	67%	59%	60%	42%	38%	53%	44%	49%	47%	46%
Hispanic / Latino	77%	69%	83%	62%	68%	50%	75%	60%	55%	76%	52%	57%	44%	62%
Pacific Islander	50%	100%	75%	67%	100%	0%	50%	50%	100%	75%	33%	50%	0%	50%
Two or More	44%	50%	68%	44%	83%	52%	76%	33%	43%	47%	39%	72%	52%	62%
Unknown / NR	63%	55%	67%	68%	68%	72%	73%	53%	55%	62%	48%	46%	68%	58%
White	77%	70%	71%	67%	68%	80%	75%	53%	65%	63%	67%	58%	65%	63%

Subject	CIS

Retention and Success Rates by Age Group

	Term Retention %							Success %						
Age Range	**Spring 2014**	**Fall 2014**	**Spring 2015**	**Fall 2015**	**Spring 2016**	**Fall 2016**	**Spring 2017**	**Spring 2014**	**Fall 2014**	**Spring 2015**	**Fall 2015**	**Spring 2016**	**Fall 2016**	**Spring 2017**
Under 16	100%		100%			100%	100%	100%		100%			100%	100%
16-18	89%	50%	92%	90%	67%	27%	78%	78%	50%	91%	80%	67%	20%	50%
19-24	73%	69%	77%	67%	73%	62%	72%	57%	55%	63%	56%	59%	53%	59%
25-29	77%	71%	65%	59%	63%	62%	66%	60%	63%	52%	46%	49%	52%	57%
30-34	71%	59%	80%	60%	74%	67%	68%	49%	56%	67%	47%	59%	65%	53%
35-54	69%	47%	70%	75%	72%	75%	72%	46%	40%	58%	64%	55%	65%	62%
55-64	53%	62%	43%	50%	61%	72%	72%	26%	62%	38%	35%	61%	59%	64%
65 & Above	67%		100%	100%	67%	67%	50%	0%		100%	0%	33%	67%	38%

Subject	CIS

Retention and Success Raets by DSPS Status

	Term Retention %							Success %						
DSPS STATUS	**Spring 2014**	**Fall 2014**	**Spring 2015**	**Fall 2015**	**Spring 2016**	**Fall 2016**	**Spring 2017**	**Spring 2014**	**Fall 2014**	**Spring 2015**	**Fall 2015**	**Spring 2016**	**Fall 2016**	**Spring 2017**
DSPS Students	71%	50%	68%	54%	60%	63%	65%	33%	33%	50%	31%	50%	44%	41%
Non DSPS Students	72%	63%	75%	68%	70%	63%	70%	54%	55%	64%	56%	56%	55%	59%

Subject	CIS

Retention and Success

Raets by Low Income Status

	Term													
	Retention %							Success %						
Low Income students	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017
Low Income Students	71%	61%	70%	67%	70%	59%	51%	49%	53%	56%	56%	51%	47%	35%
Not Low income	76%	65%	77%	69%	69%	81%	74%	63%	59%	68%	56%	46%	62%	57%
Undetermined	75%	50%	90%	61%	70%	62%	72%	25%	33%	90%	41%	57%	56%	61%

Subject	CIS

Retention and Success Rates by Foster Youth Status

	Term													
	Retention %							Success %						
Foster Youth Status	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017
Not Foster Youth	72%	63%	75%	67%	70%	63%	70%	53%	54%	64%	55%	56%	54%	58%
Foster Youth Status	50%	0%	20%	50%	71%	71%	100%	25%	0%	20%	50%	57%	57%	75%

Subject	CIS

Retention and Success Rates by Veteran Status

	Term													
	Retention %							Success %						

Veteran Sataus	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017
Not Veterans	72%	62%	75%	66%	69%	63%	70%	53%	54%	64%	54%	55%	54%	58%
Veterans	57%	43%	64%	82%	100%	64%	71%	43%	43%	50%	64%	100%	57%	65%

1. Describe the course retention and successful course completion rates and any changes since the 2015-2016 program review

   More instructors in the department have moved to a flipped classroom model incorporating online Learning Management Systems in to lectures. This permits students who must miss a class to catch up more easily, making them less likely to withdraw.

2. Describe any achievement gaps present in your disaggregated enrollment, retention and successful course completion data. (Your data is disaggregated by Gender, Race/Ethnicity, Age, and student populations: DSPS, Low Income, Foster Youth and Veterans)

   We see some narrowing gaps in the retention of veterans and their success improving. There has been increased contact with the Veterans Affairs counselor and we introduced alternative ways of getting the first chapter of a course textbook such as obtaining a PDF excerpt provided by the publisher and giving access via a Learning Management System. This reduced the number of situations where a student could not purchase the textbook at the beginning of the course and fell behind. The cybersecurity program uses mostly free and freely available documentation as part of instruction.

Student Success in Distance Education/Hybrid classes versus face-to-face **classes:**

Retention and Success of Online vs. Hybrid Vs. Face to Face Classes																				
	Term																			
	Retention %																			
	Spring 2014		F 2014			S 2015			F 2015			S 2016			F 2016			S 2017		
Row Labels	Face to Face	Hybrid	Online	Face to Face	Hybrid	Online	Face to Face	Hybrid	Online	Face to Face	Hybrid	Online	Face to Face	Hybrid	Online	Face to Face	Hybrid	Online	Face to Face	Hybrid
Applications in Info Security										91%						83%				
Cloud Security Fundamentals										80%					70%					
Computer Forensics Fundamental												69%						89%		
COMPUTER LITERACY	75%	68%		51%	79%	87%	82%	66%		67%	56%		68%	78%		84%	56%		75%	69%
DATABASE MANAGEMENT		59%			50%	63%					58%						35%			64%
E-COMMERCE WEB SITE									68%											
Hacker Guard – Baseline Traini												94%						100 %		
Hacker Techniques & Exploits						76%						87%						75%		
INTRO COMPUTER PRGM													60%	48%		67%	27%		50%	63%
INTRO COMPUTER SCI		71%			50%	58%					56%			86%			50%			33%
INTRO TO CIS	82%	47%		82%	60%	65%	92%			87%	52%		59%	57%	60%	91%	46%		71%	67%
Intro to Info System Security						74%			83%						76%					
Intro to Info Tech Proj Manag												75%		50%						57%
Intrusion Detection In-Depth:									95%						86%					
IT Security Goals, Strategy													92%						100%	
Secure Coding in Java									86%						60%					

and .NET																				
SPREADSHEET APPLICATIONS		84%	38%			42%			44%			59%			48%					50%
Systems and Network Admin						83%			75%			92%			87%			83%		
Web Application PEN Testing												89%						86%		
WWW PUBLISHING I		74%				73%														
Grand Total	77%	68%	38%	68%	64%	69%	89%	66%	71%	74%	55%	79%	70%	63%	70%	85%	44%	83%	74%	60%
	Success %																			
	Spring 2014		F 2014			S 2015			F2015			S 2016			F 2016			S 2017		
	Face to Face	Hybrid	Online	Face to Face	Hybrid	Online	Face to Face	Hybrid	Online	Face to Face	Hybrid	Online	Face to Face	Hybrid	Online	Face to Face	Hybrid	Online	Face to Face	Hybrid
Applications in Info Security										55%						67%				
Cloud Security Fundamentals										80%					70%					
Computer Forensics Fundamental												50%						71%		
COMPUTER LITERACY	40%	58%		46%	60%	71%	72%	48%		52%	41%		64%	65%		74%	51%		69%	63%
DATABASE MANAGEMENT		50%			46%	56%					47%						29%			60%
E-COMMERCE WEB SITE									64%											
Hacker Guard – Baseline Traini												94%						91%		
Hacker Techniques & Exploits						74%						70%						61%		
INTRO COMPUTER PRGM													40%	14%		22%	13%		33%	28%
INTRO COMPUTER SCI		71%			50%	48%					56%			76%			47%			17%
INTRO TO CIS	82%	38%		82%	43%	50%	92%			84%	35%		41%	49%	0%	84%	42%		64%	61%

Intro to Info System Security						63%			83%						67%					
Intro to Info Tech Proj Manag												75%		19%						7%
Intrusion Detection In-Depth:									95%						71%					
IT Security Goals, Strategy													76%						100%	
Secure Coding in Java and .NET									29%						33%					
SPREADSHEET APPLICATIONS		39%	31%			27%			34%			37%			48%					50%
Systems and Network Admin						61%			50%			92%			83%			75%		
Web Application PEN Testing												56%						43%		
WWW PUBLISHING I		54%				50%														
Grand Total	54%	52%	31%	66%	51%	56%	86%	48%	60%	61%	42%	64%	60%	47%	61%	73%	38%	68%	68%	47%

1. **Describe any difference in the Retention and Success of face-to-face and distance education courses.**

We see higher retention and success in many lecture courses for the likely reason that it the subjects are conceptually challenging. Courses like CIS 005 "Introduction to Computer Science", or CIS 006 "Introduction to Programming" we see these outcomes because students feel the need for in-person instructor engagement and explanation. Most of the courses have some hybrid or flipped component where a Learning Management System (LMS) or remote browser-accessed laboratory is used to supplement in face-to-face lectures. In Hybrid courses we often see online students occasionally participate in the lecture section when faced with topics they need assistance in mastering, returning to strictly online participation. This ability to choose and escalate participation as needed is a novel attribute of instruction delivery.

Other program specific data. Other data could include: departmental research via survey or special projects that significantly supports the goals or future plans for the program.

We need administration to hire students as tutors and department assistants. Budget delays block ePAFS for tutors preventing them from being available. **Tutors that are recruited stop working because they can't get paid!**

IV. Aligning Program Goals, Activities and Planning

Purpose: In this section, you will align your program, department or unit goals with the Educational Master Plan goals. You will also be asked to comment on how your department, unit or program is helping the College to achieve the targets set by the Equity, SSSP and Basic Skills Plans.

1. Educational Master Plan Alignment: Please use the following matrix to demonstrate how your program goals align with the 2015-2020 Educational Master Plan Goals.

2015-2020 EMP Goals

Foundations:

1. Assess students' strengths and needs thoroughly to accelerate completion of certificates, degrees and transfer readiness.
2. Support and develop programs, curriculum and services that increase completion of courses, certificates, degrees and transfer.
3. Establish an organizational structure that promotes coordination, innovation, and accountability, and which embeds basic skills development across the campus.

Career Technical Education:

1. Develop opportunities for CTE students to engage in campus and community experiences that enhance learning and student success (program-level clubs/enterprises, activities that develop soft skills, etc.) by contextualizing and proactively engaging students.
2. Create a Merritt-wide infrastructure that streamlines and develops employer partnerships, including offering High quality internships, serving on advisory boards, and engaging in curriculum development.
3. Strengthen Merritt College's "on ramps" to our CTE pathways by enhancing distance education, dual enrollment, adult education, contract education, etc., and provide differentiated supports that ensure student success for targeted population.
4. Create proactive strategies to engage faculty, students, and employers to support program success and sustainability that increase student-level academic and career outcomes.

Transfer:

1. Establish fully functioning transfer center.
2. Acquire more and better data (Higher granularity) on transfer rates. Collect transfer data to include UC, State, and Private institutions.
3. Augment and strengthen specific partnerships with academic departments in CSUs, UCs, and privates to develop transfer pipelines.
4. Augment and strengthen support services for transfer students campus-wide.
5. Augment and strengthen support for transfer students within academic programs.

Directions: 1) input your program and department goals. 2) Identify which area of the Ed Master Plan this Goal aligns to – Foundations, Transfer and/or CTE. Describe the activities your department or program will complete to meet the goal. 5) What standard or goal do you think the activities will help the college achieve as a measurable outcome (Completion rate, degree/cert completion, transfer, remedial rates). Place and X in the standard(s) and/or goal(s) your program activity will impact.

Program/ department or unit Goal	**Foundations**	**Transfer**	**CTE**	**How does this goal or the program activities align with the Educational Master Plan Strategic Directions and/or Goals?**	**Measurable Outcomes: Institution Set Standards and IE Goals**					
					Successful Course Completion Rate	**Retention Rate (F to F Persistence)**	**Degree or Cert. Completion**	**Transfer**	**Remedial Rate Math (Basic Skill Success)**	**Remedial Rate English (Basic Skills Success)**
Create a contextualized course sequence leading to a Local Computer Science AS degree and an AS Transfer degree. Leverage Basic Skills Initiative outcome Math 230 to accelerate and remediate Computer Science readiness in incoming students.	2	2	3	The A.S. Computer Science Degree is considered the entry level degree for job placement for the NSF funded Stem Core Initiative. It is also complementary to Cybersecurity. Leveraging Basic Skills Initiative program can help CS align to TMC enabling AS-T degree and improved transfer outcomes.	X	X	X	X	X	X

Update and Re-activate CTE programs like Network+, Cisco CCNA, and Linux+. Equip a Merritt ICT laboratory to support converged Cybersecurity/CTE/Mobile Apps instruction. Implement a CompTIA testing center to enable sitting fee discounts to student. Align with BACCC to reduce per-capita instruction costs via local/remote equipment usage. CSU Partnership for transfer (CAE2Y/CAE4Y) articulation coordinated course offerings, & regional Cybersecurity Impact. Seek Cybersecurity course and program articulation between CSU San Bernardino and CSU East Bay.	1,2	3	4	CTE programs are attractive because students can improve wages on completion. Emerging careers like Cybersecurity integrate CTE courses into transferable degrees. Merritt is working with CSUEB on Cybersecurity Transfer (CAE2Y to CAE4Y). Several distinct programs can share feeder courses improving enrollment, sustainability and resource (lab) utilization. Ties with regional resources (BACCC/ICT/DM) are strengthened through Prototype/POD development.	X	X	X	X		

Offer OUSD/PCCD Dual Enrollment students access to a complete MC program. Align CBO (Hack-the-Hood, Hidden Genius) and Charter school DE to OUSD Model. Support & simplify DE enrollment management through departmental classified staff utilizing taskforce processes. Extend club (!NULL) participation to OUSD and K-8 students, bootcamps socials. Align Cyberpatriot/!NULL/Cyberdefender/National Cyber League non-academic/non-credit competition pathway. Engage in targeted outreach to Veterans, formerly Incarcerated, and "Enriching Life - 55yr+" cohorts.	2	3	1,3	Merritt will offer motivated DE students the opportunity to complete the sequence of courses in its Cybersecurity programs. Club will enable community participation in Cyber competitions along-side students. Formerly incarcerated and vets have high proportion of African-American Males.	X		X		X	X
Create a regional collaborative program leading to a DevOps degree and certificate. Partner with San Francisco Community College District and San Mateo Community College Districts to secure enrollment at each college by evenly distributing FTEs, balancing supply and demand and leveraging existing regional investments. Integrate existing college curriculum and regional infrastructure investments (NETLAB) with novel redesigns in industry engagement, career support services, STEM pedagogy and faculty professional development with the goal of increased enrollment, access, equity, completion and employment.			2,3	DevOps jobs consistently rank as the most highly-compensated and most in-demand IT/CS skillsets. The average salary for a DevOps role at an early stage start up has exceeded $110,000 In a September 2017 search on Bay Area DevOps job availability in the last 30 days, Glassdoor returned 7,078 with an average salary of $108,535 and LinkedIn 1,998 (salaries not listed).	X	X	X			

Create converged infrastructure to support Cybersecurity Lab, Cisco Networking, DevOps, and Challenge Practicum creation. This infrastructure updates and upgrades CIS instruction delivery and allows reconfiguration to support bootcamps socials, re-alignment do deliver challenge environments for Cyberpatriot/!NULL/Cyberdefender/National Cyber League non-academic/non-credit/Summer Camp competitions.			1,2		X	X	X			

Director of Security Program - Cybersecurity is becoming a central issue across industries as evidence of the business risk gathers. This results in many opportunities for the program and its students that require the skills of a program director to coordinate and exploit. Many companies may wish to engage with our students and offer opportunities; for example placing them in internships if the satisfactorily complete a set of challenges that demonstrate Knowledge, Skills, and Abilities (KSA) relevant to the industry. This industry engagement as well as alignment with workforce intermediaries such as Alameda WIB, Oakland Chamber of Commerce, Kapor Center require director level involvement to grow the CIS programs.			1,2,3,4	Cyber security (CS) has consistently emerged as a need by employers of every size and across every industry sector. Industries experiencing some of the highest CS job growth include finance (+137% over the last five years), health (+121%), and the retail trade (+89%). While the need is great, conventional education and training strategies have not kept pace in fueling the workforce pipeline. The Program Director guides implementation of a scalable model to fill the gap.	X	X	X			

Implement a Workforce Accelerator Infrastructure, and on-campus internship support for employer engagement. Grow and extent Merritt's engagement with Lawrence Livermore National Laboratories (LLNL) Cyberdefenders program into a PCCCD-wide program. Create a structured suite of *evidence-based* and *industry-specific* curricular, enrichment and wraparound support activities to help underserved groups connect to employers and obtain the necessary training, experiences, and credentials to move into and/or increase their earning power in high-growth, high-demand Cybersecurity jobs.			1,2,3,4	Employers are relying on challenge-based assessments of employment candidates to determine who gets hired. This initiative organizes candidates into teams to complete *Employer-Submitted Research Projects* on various cyber security topics such as malware detection or small business networks. Candidates demonstrate teamwork/building skills and regional employers can engage with candidates on the Merritt site where the issues of security clearance and intellectual property are mitigated.	X	X	X			

2. Student Equity, Student Success and Support Program (SSSP), and Basic Skills Target Groups: These plans analyzed student success outcomes and disproportionately impacted student populations. The chart below outlines the results of this analysis, and is a summary of the student populations and focused outcomes that the College indicated it would like to increase as a result of the Student Equity Plan (E), SSSP Plan (S), and Basic Skills Plan (B).

    a. As a program, department or unit, review your data and describe any activities you are doing to address student equity gaps and special populations in the table below. Describe the target or focused student population, the problem/observation, the activity/intervention, and the intended outcome. How does your activity align with the College's Equity, SSSP and Basic Skills Goals

(list the target group and indicator in the last box below)? In your description, please note if the activity or intervention was funded by one of these grants in the past academic year (15-16).

There continues to be challenges in equity by gender and race in Cybersecurity and STEM disciplines. As a department we find that fostering environments with clear norms and intermediation permits improvement in closing the gender gap. One such norm as implemented in the ASMC club !NULL under faculty guidance is: "Invite someone to listen in." Language as used in Cybersecurity is extremely fluid and essential to understanding threats, risks, and mitigation. Yet there is no glossary and anything that is relegated to print, even on a blog, is often out of date. This norm helps new members, feel included and that there is no secret code they must first understand to be part of the club.

In hybrid course offerings such as CIS 006 "Introduction to Programming" the mandatory requirement of posting to forums on each topic begins the pattern of communication by all parties. One of the norms is that students must introduce themselves based on their interests and goals. This provides a common referent among parties that might be seen as dissimilar. Private ratings of each postings provide reinforcement of public participation. Some of the observational evidence this permits is the number of postings provided by students, the number of postings on a given topic, and the number of postings that provide an answer or solution to other students questions.

Across the board we see students who feel challenged by algebra. We eagerly await offerings of the BSI developed course "Math 230 Elementary and Intermediate Algebra for STEM." This presents a resource to remove one of the barriers to student success and is a course we would like to see available under Dual Enrollment so high school graduates could enter STEM programs with a sufficiently strong mathematics foundation.

2015-16 Student Equity Plan, Student Success and Support Program Plan (SSSP), and Basic Skills Goal Summary

The **Student Equity Plan, SSSP Plan,** and **Basic Skills Plans** outlined goals and activities to increase the following indicators, with special focus on the student populations below:	Access (Headcount)	Successful Course Completion (All Subjects)	Math Course Completion	English Course Completion	Fall to Spring Retention	Basic Skills: BS Math Course Completion	Basic Skills: BS English Course Completion	Basic Skills: BS ESL Course Completion	Number of Degrees	Number of Certificates	Number of Transfers to UC and CSU
Males	E S	E	S								
African American	E S	E	E S	E	E			E	E S	E S	E S
Hispanic/Latino	E S	E			E			E	E	E S	E S
Native American								E	E S	E S	E
Hawaiian/Pacific Islander		E									
Foster Youth	E	E						E	E	E	E
Disabled	E										
Veterans	E										
Low Income		E									
All Students		S	B	B		E S B	E S B	S	S	S	

***S = SSSP, E=EQUITY, B=BASIC SKILLS**

Directions: 1) Describe a challenge, achievement gap or observation you made in your program data. 2) Describe an activity or intervention your program does to address the data. 3) Note which student populations this activity or intervention targets. 4) describe the intended measurable outcome of the activity. Think about which indicator, from the summary chart below, this activity will help to impact. 5) Note which Plan and Goal this activity aligns to (SSSP, Equity, or Basic Skills)

Is your program planning for changes, improvements or initiatives that align with Student Equity, SSSP or Basic Skills Initiative? Please report on the *PLANNING* for 2017-2018.				
Problem, Achievement Gap or Observation (data)	**Activity/Intervention**	**Target Student Population**	**Outcome (or intended outcome from the list of indicators above: access, course completion, retention, BS course completion, degree, cert. transfers)**	**Relevant College Equity/SSSP/BS Goal**
Lack of CIS/CTE program diversity	Create Short-sequence pathways that let students earn an occupational certificate. Highlight career outcomes from non-career activities such as cyber competitions. Facilitate industry support such as Facebook sponsorship for student to attend the Women in Cyber conference.	K-12 Students across all ethnic demographics. Students who may be candidates for remedial Basic Skills Initiatives. CBOs Hack-the-Hood, Hidden Genius. Currently enrolled and new program students.	Increase headcount/enrollment of these populations, Identify/refer candidates for Basic Skills Initiative programs. More visibility to employers through scouting reports. Improved outcome from recruiting through role model speaking opportunities.	Access for African Americans and Latinos, of all genders. Lowering barriers to Basic Skills, Accelerate student progression.
Low numbers of of Adult/Re-entry and veterans enrolled as students in CTE courses	Link Re-entry program like Street Scholars/Gamble Institute into Guide Pathway Initiatives for Merritt's CIS programs. Include pathways from CBOs like Hack-the-	Formerly incarcerated, Veterans, and soon to be discharged armed forces personnel. K12 and community students who have completed	Increase headcount/enrollment of these populations, completion of assessments, completion of education plan, enrollment in Bridge programs or CIS programs, earning an occupational certificate.	Low Income, Access

	hood and Stride Center into curriculum promotion. Prepare veteran specific materials to promote career pathways. Ensure the local DOD has Merritt's DUNS numbers so students in the armed forces can get reimbursed for education costs.	skills training with a CBO.		

b. Are additional resources required to facilitate the activities or interventions related to this area? If yes, make sure to discuss with your Dean.

Additional student support personnel may be required when numbers of students from these populations grow. Specialist similar to those found in iBest programs are the ones most similar to those needed by CIS programs.

3. Student Equity, Student Success and Support Program (SSSP), and Basic Skills Funding: In addition to identifying focused student populations and targets for improving student outcomes, these plans outlined activities the College would engage in to improve the indicators above.

Did your program receive funding from any of the sources below in 2016-2017? What was the outcome of this funding?

Please report on the outcomes from 2016-2017 funding.				
Plan	**What was funded?**	**Was this part of a larger activity or initiative?**	**What need did this address?**	**What measurable outcome resulted in this funding?**

Student Equity Plan	In-class lab facilitation and embedded SSSP tutor presence.	All of the CIS and cybersecurity classes have students who are challenged to see themselves as able to complete this. Progress in Instruction can be improved by hiring former students as tutors for the class which models successful outcomes for struggling students. This supplemented additional tutoring resources like upswing.io which was provided recently and widely engaged by online students.	Improving achievement of learning objectives and providing more evidence for intervention and assistance based on dialog with tutors and instructor.	Retention was improved because students felt they had ready access to improve.
SSSP Plan				
Basic Skills Plan				
Strong Workforce	Participation in the Regional Cyberpatriots Summer Camp initiative.	It was part of a state-wide iniative to engage young people on Cybersecurity.	Expanding the pipeline of students by engaging and identifying interested students.	Several students received college credit under Dual Enrollment and completed the Peralta Computer Literacy degree requirement. Early engagement with programs.

V. Curriculum and Assessment Status

Purpose: In this section, you will plan for curriculum review and discuss assessment plans and findings. If your Program, Department or Unit does not have a curriculum component, please put N/A. You should reference the *CurricUNET META*, and *Taskstream.*

Curriculum Review Plan

In preparation for the implementation of structured curriculum review in the 2018-2019 academic year, departments and programs are being asked this year to submit curriculum review plans, indicating when all courses and programs shall be reviewed. One-third of non-CTE curriculum should be reviewed each year, resulting in all non-CTE courses and programs being reviewed within the three-year program review cycle. Half of CTE curriculum should be reviewed each year, resulting in all CTE courses and programs being reviewed every two years in conjunction with the program review/annual program update cycle.

Directions

All department chairs, program directors, and full-time faculty members should have access to CurricUNET META to view the active curriculum inventory. If you don't have access, contact LaShaune Fitch, Curriculum Specialist, at lfitch@peralta.edu.

- List all active courses, certificates, and degrees.
- Indicate which year each course, certificate, or degree shall be reviewed (including deactivations and reactivations).
- Add more rows to each table as needed.

Course Number	Course Name	2018-2019	2019-2020	2020-2021
CIS 001	Introduction to Information Systems	review		
CIS 005	Introduction to Computer Science			review
CIS 006	Introduction to Programming			review
CIS 033	Software Architecture and Algorithms			review

CIS 051	Introduction to IT Project Management			review
CIS 052	Cloud Security Fundamentals	review		
CIS 053	Intrusion Detection In-depth: Compliance, Security, Forensics, and Troubleshooting	review		
CIS 054	IT Security Goals, Strategy, Policy, and Leadership	review		
CIS 055	Hacker Techniques, Exploits, and Incident Handling	review		
CIS 056	Secure Coding in Java and .NET			review
CIS 057	Web Application PEN Testing			review
CIS 059	Applications in Information Security			review
CIS 060	Computer Forensics Fundamentals			review
CIS 071	Introduction to Information Systems Security			review
CIS 072	Systems and Network Administration	review		
CIS 078	Digital Architectures for Computation			review
CIS 205	Computer Literacy	review		
CIS 234A	World Wide Web Publishing 1	review		

Program Type	Program Name	2018-2019	2019-2020	2020-2021
Certificate of Proficiency	*Art Foundation*	*X*		
Certificate of Achievement	Infrastructure Security			review
Associate in Science	Infrastructure Security			review
Certificate of Achievement	Application Security			review
Associate in Science	Application Security			review

Student Learning Outcomes Assessment

Use the following table to document the results of the student learning outcomes assessment completed in 2016-2017. Please discuss which courses and PLO's were assessed, the results, changes that were made or plan to be made.

Learning Outcomes Assessed in 2016-2017		**Results**	**Changes Made (or to be made)**	**Status (Completed or planned date)**
Course/Program	Learning Outcome Assessed			
CIS 055	Course Grade	Students have problem believing course outcomes are attainable.	Hire students who successfully completed course as embedded tutors. Supplying both role models and peer counseling and assignment assistance.	Fall 2018
CIS 006	Midterm	36% of students are not reading chapters	Change LMS to require passing grade on quizzes which are based on chapters.	Fall 2018
CIS 057	Course Grade	CIS 1 inadequate Prep for Applications Program. Students have life conflicts	Replace CIS 001 with CIS 005 in Applications and Infrastructure programs	Fall 2018
CIS 060	Comprehensive Project	Students unable to meet & work on project could not contribute and had to withdraw.	Provide student accessible collaboration tools such as Slack	Spring 2018
CIS 072	Systems and Network Administration	Students struggle with inadequate preparation in Math	Strengthen recommended prep and refer students directly to Math courses	Fall 2018

1. What meaningful dialogue takes place in both shaping and assessing course and program level outcomes? Where can one find the evidence of the dialogue?

   We communicate with students and among faculty. We interviewed several students who were part of the Applications Security track to discover the root cause of challenges. This revealed the inadequate preparation provide by CIS 001 leading to the planned program update.

2. Attach the completed Fall Schedule Assessment Planning Template (due to CDCPD mid-September).

   Not available in CDCPD Dropbox or on the Merritt College assessment page

   http://www.merritt.edu/wp/slo/assessment-reports/

VI. Additional Questions for CTE, Counseling, Library and Student Services/Admin Units

Purpose: In this section, certain programs or departments will answer questions specific to the program. **Leave the section blank if your program, department or unit is *not CTE, Counseling, Library or Student Services/Administration.***

For CTE:

1. Please describe any recommendations resulting from advisory committee meetings that have occurred since your last program review.

2. Did your program work with a Deputy Sector Navigator and if so, how did this lead to program changes or improvements?

3. Is your discipline/department/program currently participating in any grants specific to the program? Please discuss your progress in meeting the stated goals in the grant.

For Counseling:

1. What has the counseling department done to improve course completion and retention rates? What is planned for the future?

2. What has the counseling department done to improve SSSP counseling services? Please discuss your progress in improving SSSP counseling services.

For Library Services:

1. Please describe any changes in the library services, collections or instructional programs since the last program review or APU and fill in the information below:

	This Academic Year	Previous Academic Year (s)	Explanation of Changes
Library Open Hours Per Week			
Library Visits (gate count)			
Other Library Usage			
Total Library Materials Expenditures			
Total Print Book Collection (Titles)			
Total E-book Collection (Titles)			
Total Database Subscriptions			
Total Media Collection (Titles)			
Total Print Periodical Subscriptions			
General Circulation Transactions			
Reserve Circulation Transactions			

In-house circulation Transactions (optional)			
Media Circulation Transactions (optional)			
E-book Circulation Transactions Describe (optional)			
Other circulations Transactions – Describe – (optional)			
Total circulation Transactions			

For Student Services and/or Administrative Units:

1. Briefly describe the results of any student satisfaction surveys or college surveys that included evaluation and/or input about the effectiveness of the services provided by your unit. How has this information informed unit planning and goal setting?

2. Briefly describe any changes that have impacted the work of your unit.

VII. New Resource Needs Not Covered by Current Budget

Purpose: **In this section, programs will documents new and repeat resource requests** *not covered by current budget*, **and document the support of the request with data or evidence.**

Human Resources: If you are requesting new or additional positions, in any job classification, please explain how new positions will contribute to increased student success.

Human Resource Request(s)	**Dollar Amount**	**Already Requested in Recent Program Review or APU? (yes/no)**	**What Program Goal does this request align to? (cut and paste from section II)**	**What data or evidence supports this request? (If discussed in a section above, please give a brief statement and page reference.)**	**How will this resource contribute to student success? (1-3 sentences)**
2 Full-time faculty & several Adjuncts to teach CS/CTE/Cybersecurity curriculum		yes	Create a course sequence leading to a Computer Science AS/CA/AS-T. Earn Designation as a CAE2Y.	Regional consortia (BACCC) validate need. The National Science Foundation awarded a grant *Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science* (**NSF INCLUDES**) which is aimed at mitigating this need. Creating this career pathway will improve the number of underrepresented workforce participants.	Enable regular scheduling of the sequence of required CS courses. Graduates will have the skills required for entry level software development and employment in the regional STEM Core network

*New faculty and staff requests must be listed here.

Technology and Equipment: How will the new technology or equipment contribute to student success?

Technology and Equipment	**Dollar Amount**	**Already Requested in Recent Program Review or APU?** **(yes/no)**	**What Program Goal does this request align to?** **(cut and paste from section II)**	**What data or evidence supports this request? (If discussed in a section above, please give a brief statement and page reference.)**	**How will this resource contribute to student success? (1-3 sentences)**
Cybersecurity Lab in isolated network "Sandbox" to provide instruction and resources while keeping malware and intrusion alarms separate from PCCD IT network.	31,750	Yes	*Student Success and Student Equity* Update instructional equipment to provide real-world scenarios and sharpen Computer Science & Cyberseccurity skills. Equity Embed student support services as part of the curriculum. Provide opportunities to demonstrate Knowledge Skills and Abilities (KSA) through cyber competition, showcases, and employer.	Companies are using challenge based demonstrations of KSA to qualify candidates for hire. They invest in the National Cyber League because they get access to scouting reports that reflect individual and team performance.	Students will have hands-on experience and be able to gain skills through customized challenges.
Equip a Computer Science lab suitable for instructing students in transfer level curriculum and Mobile applications development. System capable of hosting Virtual Machine for Software Development.	43,250	Yes	*Instruction* - Update & revise transfer level CS courses revised to support hybrid offerings. Leverage regional resources to reduce per-capita cost of instruction. Add courses in mobile application development in fulfillment of regional grant. Deploy local infrastructure to permit instruction in mobile application Development	BACCC awarded PCCD a grant to create curriculum for Mobile Application Development based on demonstrated need. PCCD fulfilled this grant through cooperation with Laney and Merritt in creating approved curriculum. Equipment is require to instruct students.	Students can join the in-demand high-wage workforce of mobile application software developers.

Update labs P103, P107, P218 to use Virtual Desktop Interface (VDI) appliances instead of computers to access instructional material and services,	75,000	No	Many colleges tasked with maintaining computer labs and associated software installations are replacing desktop computers with sealed virtual desktop appliances linked to Virtual Machines on a shared server. The virtual desktop infrastructure (VDI) deployment is to reduce costs while making it easier to manage client machines	Many colleges have made the decision to replace its costly, energy-hungry PCs with lightweight machines running virtual desktops. This has also permitted the provision of course-aligned environments where the only software the student has access to is what is needed for the course. It has reduced the amount of Malware introduced into the laboratories and made it easier for IT staff to maintain current version of software for each course. Software required for different courses no longer have to be installed on the same machine, simplifying management and reducing IT staff required. EdTech Magazine Rhode Island Community College	Students gain up-to-date versions of software and do not have to navigate around distracting unrelated applications.

Facilities: Has facilities maintenance and repair affected your program in the past year? How will this facilities request contribute to student success?

Facilities	**Dollar Amount**	**Already Requested in Recent Program Review or APU?** **(yes/no)**	**What Program Goal does this request align to?** **(cut and paste from section II)**	**What data or evidence supports this request? (If discussed in a section above, please give a brief statement and page reference.)**	**How will this resource contribute to student success? (1-3 sentences)**
Fix the toilets on the second floor of P building.	31,333	Yes	*Student Success and Student Equity* Provide up-to-date access to facilities and DSP accommodations.	Foul odors in the halls and classrooms. There is no urinal in the Men's room resulting in queues.	Students will not be distracted by odors and discomfort.

Professional Development or Other Requests: How will the professional develop activity contribute to student success? What professional development opportunities and contributions make to the college in the future?

Professional Development	**Dollar Amount**	**Already Requested in Recent Program Review or APU?** **(yes/no)**	**What Program Goal does this request align to?** **(cut and paste from section II)**	**What data or evidence supports this request? (If discussed in a section above, please give a brief statement and page reference.)**	**How will this resource contribute to student success? (1-3 sentences)**
Vendor provided training in Industry technology for faculty	25,000	Yes	*Professional Development, Institutional and Professional Engagement, and Partnerships*	To keep up with rapid changes in Information Technology, create curriculum, and provide students with up-to-date skills , faculty needs to attend training provided by vendors in technology. This fee-based training usually requires travel and lodging beyond what is available through the Professional Development Committee. The rapid industry innovation cycle means a significant number of faculty requires ongoing training to remain current in discipline and best practices.	Up-to-date and frequently refreshed curriculum is compelling to students. It allows them to remain current and competitive in the work place.

Signatures

Discipline, Department or Program Chair

_____	_____	_____
Print name	*Signature*	*Date*

Dean

_____	_____	_____
Print name	*Signature*	*Date*