



2018-19 Program Review – Physics

Program Overview

Please verify the mission statement for your program. If there is no mission statement listed, please add it here.

The physics discipline's mission is to offer lower division college physics courses for students planning to transfer to four-year colleges or to apply to professional certificate programs in the various fields of allied health.

List your Faculty and/or Staff

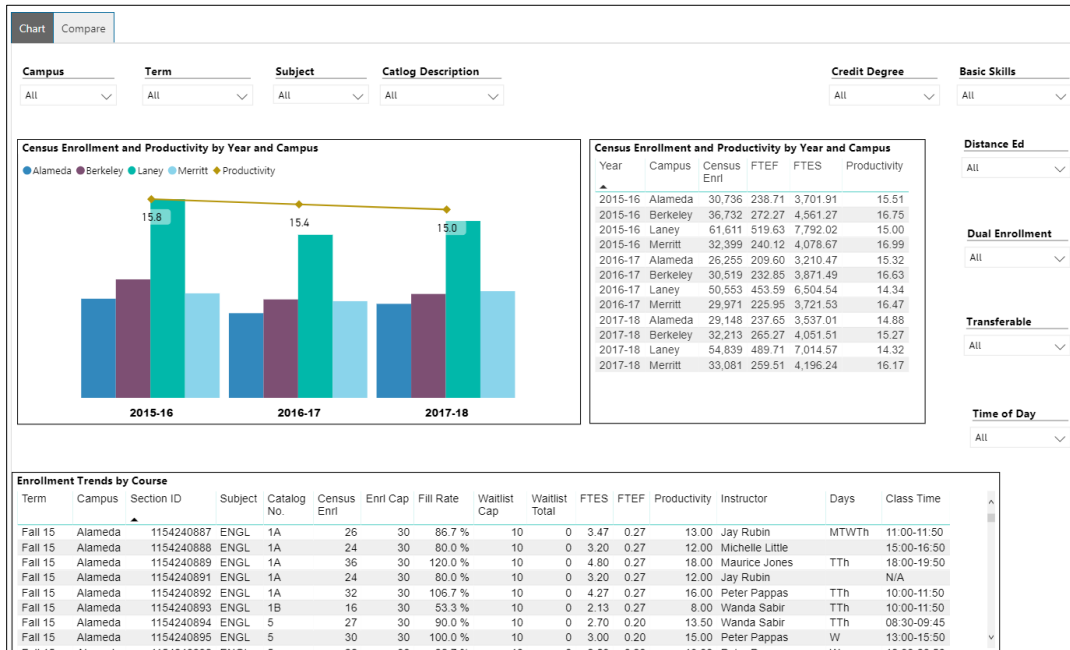
Tom Renbarger – Full-time physics (and astronomy) instructor
Dean Simmons – Part-time instructor
Mason Eastman – Part-time instructor

The Program Goals below are from your most recent Program Review or APU. If none are listed, please add your most recent program goals. Then, indicate the status of this goal, and which College and District goal your program goal aligns to. If your goal has been completed, please answer the follow up question regarding how you measured the achievement of this goal.

Describe your current utilization of facilities, including labs and other space

The Physics 2 series classes have been held in S211. Physics 4 series and Physics 10 are held in S213. Physics 2 and Physics 4 has labs in S220, once per week per course. S219 holds the equipment used for physics labs and lecture demos.

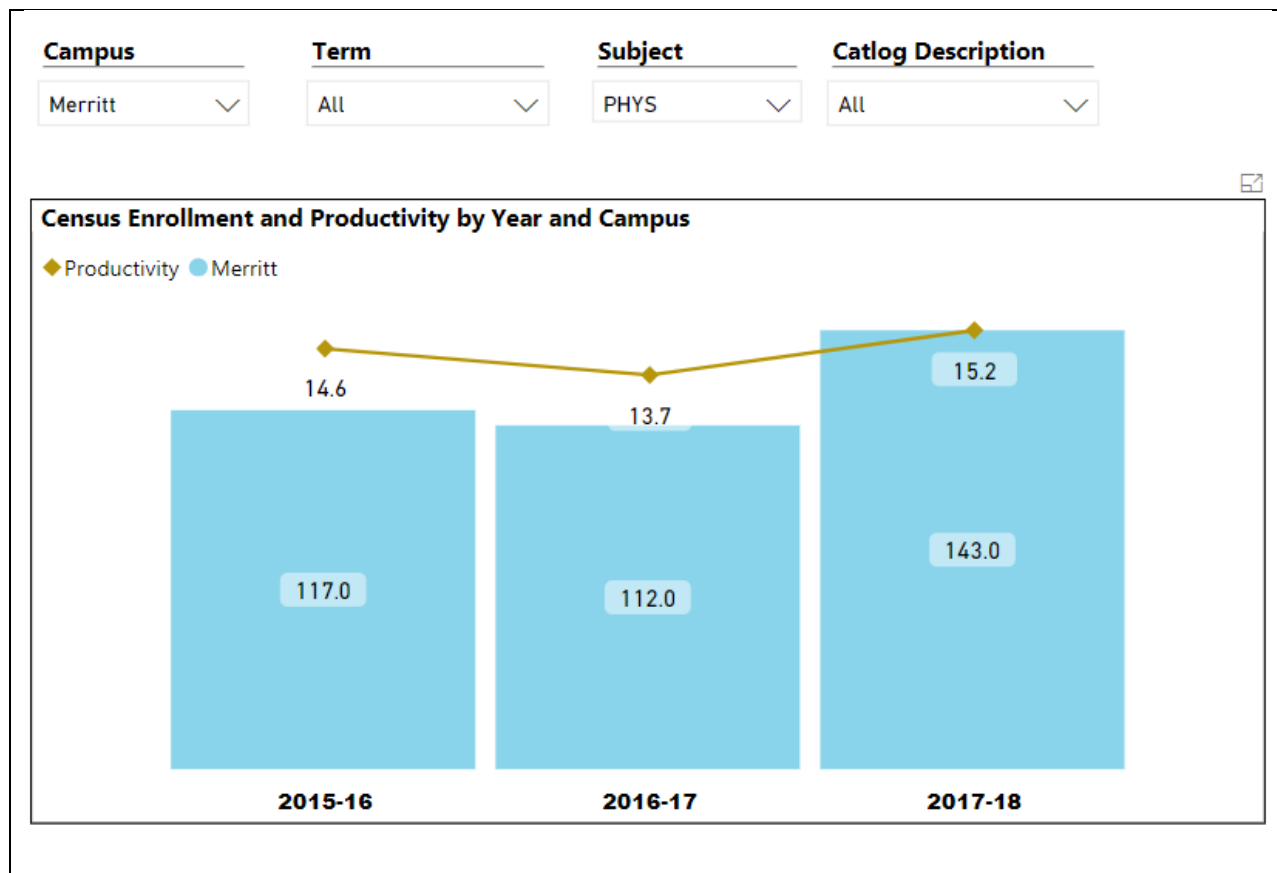
Enrollment Trends



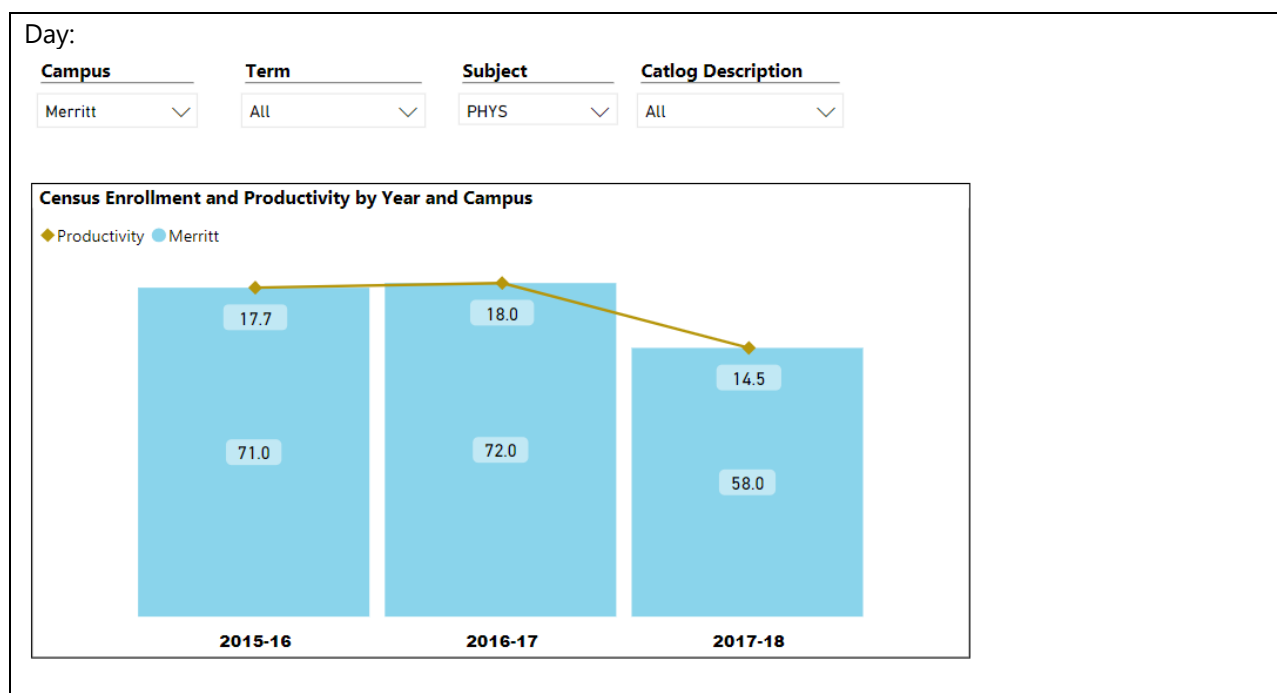
Enrollment Trends Power BI dashboard

Note: Please consider the most recent 3 years when answering the questions below.

Set the filters above to your discipline, and discuss enrollment trends over the past three years

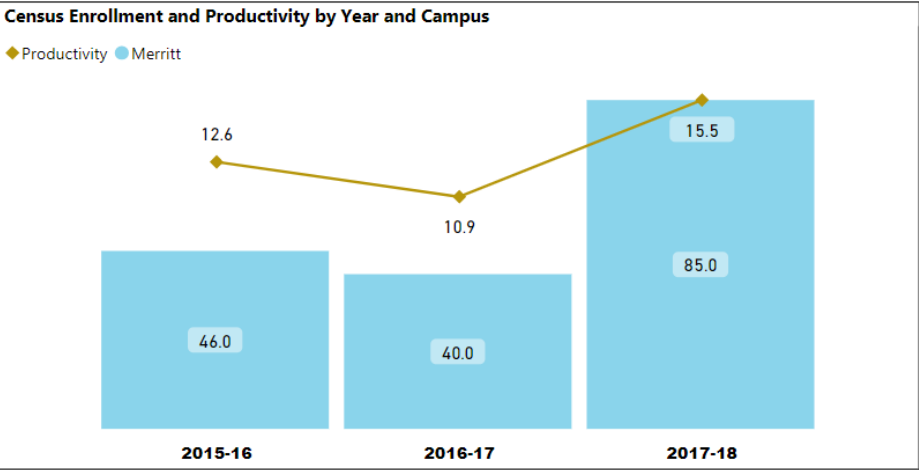


Set the filter above to consider whether the time of day each course is offered meets the needs of students.



Evening:

Campus **Term** **Subject** **Catlog Description**



Are courses scheduled in a manner that meets student needs and demands? How do you know?

Describe effective and innovative teaching strategies used by faculty to increase student learning and engagement.

How is technology used by the discipline, department?

How does the discipline, department, or program maintain the integrity and consistency of academic standards with all methods of delivery, including face to face, hybrid, and Distance Education courses?

Curriculum

Please review your course outlines of record in CurriUNet Meta to determine if they have been updated or deactivated in the past three years. Specify when your department will update each one, within the next three years.

CurriQunet Meta

Please summarize the Discipline, Department or program of study plans for curriculum plans for improvement. Below, please provide details for individual course improvement. Add plans for new courses here.

From <http://www.merritt.edu/wp/curriculum/curriculum-review/plans/phys/>:

Subject	Course #	Course Title	2018	2019	2020
PHYS	002A	General Physics		X	
PHYS	002B	General Physics			X
PHYS	004A	General Physics with Calculus	X		
PHYS	004B	General Physics with Calculus	X		
PHYS	004C	General Physics with Calculus	X		
PHYS	010	Introduction to Physics			X
PHYS	020A	Calculus Supplement for Physics		X	
PHYS	020B	Calculus Supplement for Physics		X	
PHYS	049	PHYS 049			X

Assessment – Instructional

Student Learning Outcomes Assessment

List your Student Learning Outcomes

From [SLOAC for Spring 2019](#):

Course	Course Title	Course Status	Status	# LOS	1	2	3	4	5	6	SLO NOTE
PHYS	Phys 10	Introduction to Physics	Spring 2018	3	F'17	0	0	X	X	X	Assessment INCOMPLETE , no results, reflection, or method. -5/2/2018- still incomplete as of 9/25/18
PHYS	Phys 2A	GENERAL PHYSICS	Active Fall 2017	3	14-15	0	0	X	X	X	
PHYS	Phys 2B	GENERAL PHYSICS	Active Spring 2017	3	0	0	0	0	0	0	
PHYS	Phys 4A	GENERAL PHYSICS WITH CALCULUS	Active Fall 2017	3	F'17	14-15	14-15	X	X	X	
PHYS	Phys 4B	GENERAL PHYSICS WITH CALCULUS	Spring 2018	3	0	0	0	X	X	X	

From Peralta.curricunet.com:

Fall 2017 Physics 10 assessment				Draft
College:	Merritt College			
Subject:	PHYS	Created On:	2/1/2018	
Physics 4A SLO #1				In Review
College:	Merritt College			
Subject:	PHYS	Created On:	11/3/2017	

Were there any obstacles experienced during assessment? What worked well? (Mainly based on evidence in the report, attach other evidence as necessary)

What percent of your programs have been assessed? (mainly based on evidence in the report, attach other evidence as necessary; note: a complete program assessment means all Program Learning Outcomes (PLOs) have been assessed for that program)

n/a

How has your dept worked together on assessment (planning together)? Describe how your dept works well on assessment? Describe things that went well or obstacles. What aspects of assessment work went especially well in your department and what improvements are most needed?

Collaboration

Leadership Roles

Planning Process

Dept meetings for Collaboration

Data Analysis

What were the most important things your department learned from assessment? Did implementation of your action plans result in better student learning? In other words, how has your department used the results of assessment to improve student learning and/or curriculum? Please be as detailed as possible.

Does your department participate in the assessment of multidisciplinary programs? If Yes, Describe your department's participation and what you learned from the assessment of the program that was applicable to your own discipline.

Does your department participate in your college's Institutional Learning Outcomes (ILOs) assessment? If Yes, Please describe your departments participation in assessing Institutional Learning Outcomes.

What support does your department need from administrators, assessment coordinators and/or your campus assessment committee to continue to make progress in assessment of outcomes and implementation of action plans?

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Course Completion



Course Completion Power BI Dashboard

Consider your course completion rates over the past three years (% of student who earned a grade of "C" or better).

Use the filters on the top and right of the graphs to disaggregate your program or discipline data. When disaggregated, are there any groups whose course completion rate falls more than 3% points below the discipline average? If so, indicate yes and explain what your department is doing to address the disproportionate impact for the group.

Overall:

Academic Year	Subject	Completion Rate	Retention Rate
2017-18	PHYS	84 %	91 %
2016-17	PHYS	72 %	84 %
2015-16	PHYS	84 %	91 %

Age

Age Range



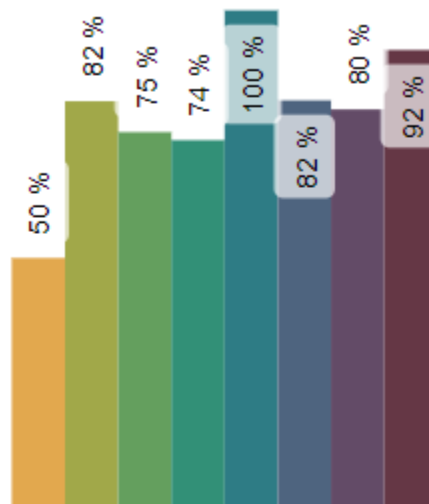
Age Range

Age Range	Ttl Graded	Completions	Completion Rate
16-18	22	22	100 %
19-24	176	133	76 %
25-29	86	71	83 %
30-34	47	37	79 %
35-54	39	36	92 %
55-64	2	0	0 %

Ethnicity

Ethnicity

- American Indian
- Asian
- Black / African A...
- Hispanic / Latino
- Pacific Islander
- Two or More
- Unknown / NR
- White



Ethnicity

Ethnicity	Ttl Graded	Completions	Completion Rate
American Indian	2	1	50 %
Asian	109	89	82 %
Black / African American	61	46	75 %
Hispanic / Latino	103	76	74 %
Pacific Islander	1	1	100 %
Two or More	11	9	82 %
Unknown / NR	10	8	80 %
White	75	69	92 %

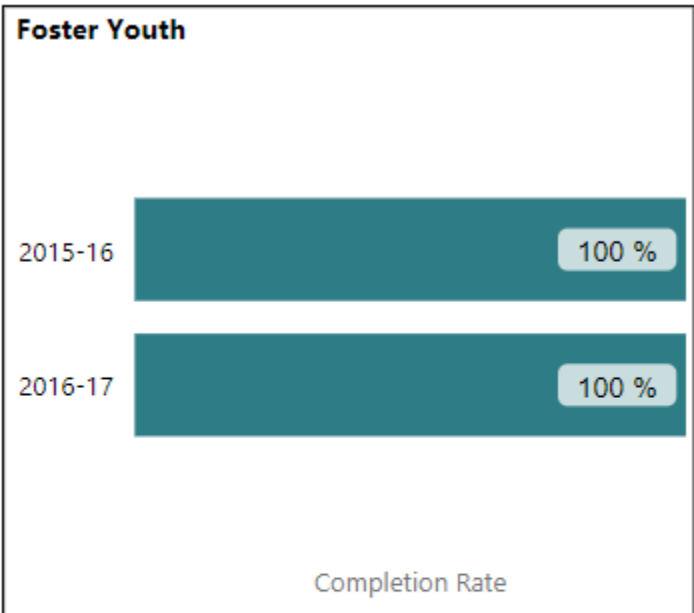
Gender

Gender



Gender			
Gender	Ttl Graded	Completions	Completion Rate
Unknown	6	6	100 %
Male	202	167	83 %
Female	164	126	77 %

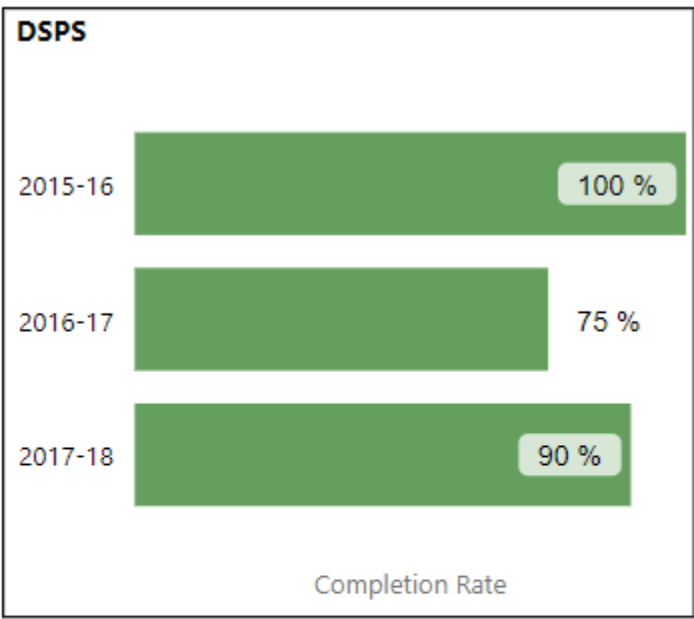
Foster Youth Status



Foster Youth

Academic Year	No. of Students	Completion Rate
2016-17	1	100 %
2015-16	1	100 %

Disability Status

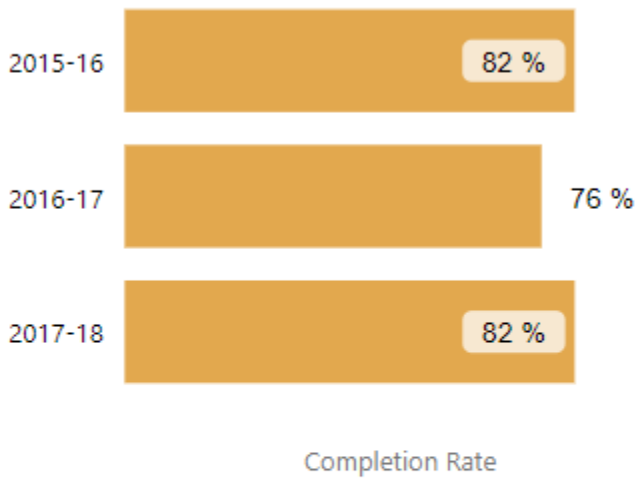


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Academic Year	No. of Students	Completion Rate
2017-18	9	90 %
2016-17	8	75 %
2015-16	4	100 %

Low Income Status

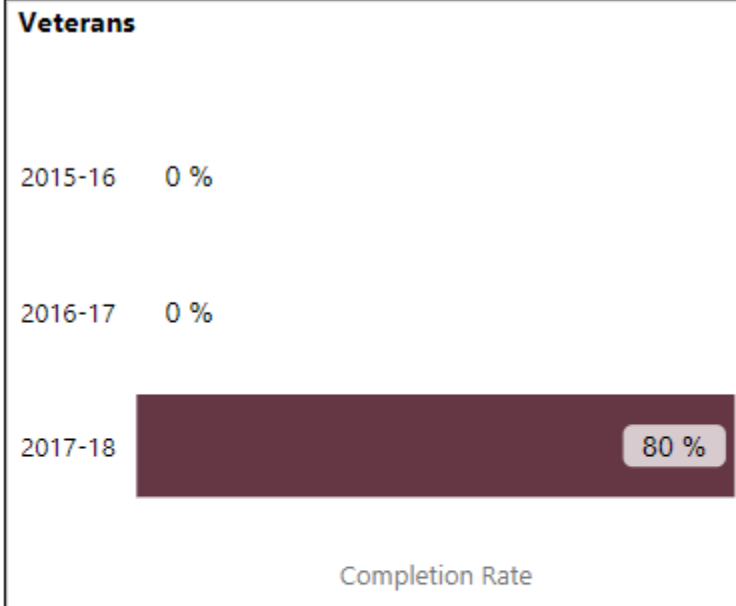
Low Income



Low Income

Academic Year	No. of Students	Completion Rate
2017-18	86	82 %
2016-17	73	76 %
2015-16	80	82 %

Veteran Status



Veterans

Academic Year	No. of Students	Completion Rate
2017-18	5	80 %
2016-17	1	0 %
2015-16	1	0 %

Consider your course completion rates over the past three years by mode of instruction. What do you observe?

Face-to-Face

All courses face-to-face.

Hybrid

n/a

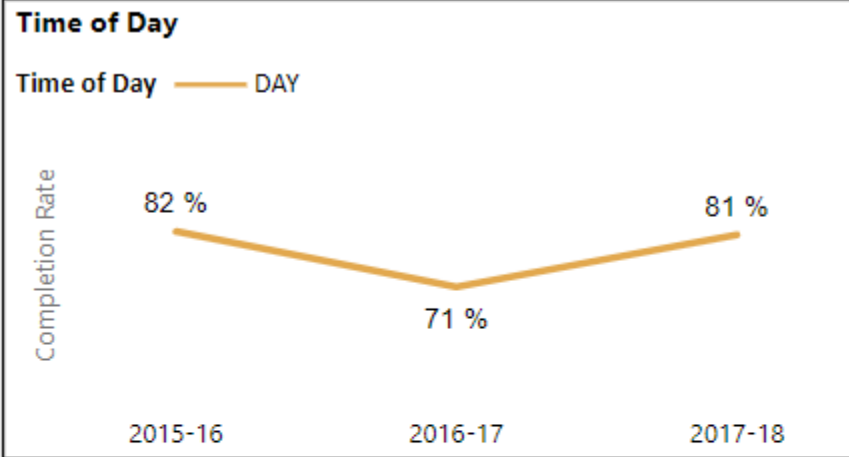
100% Online

n/a

Dual Enrollment

n/a

Day time



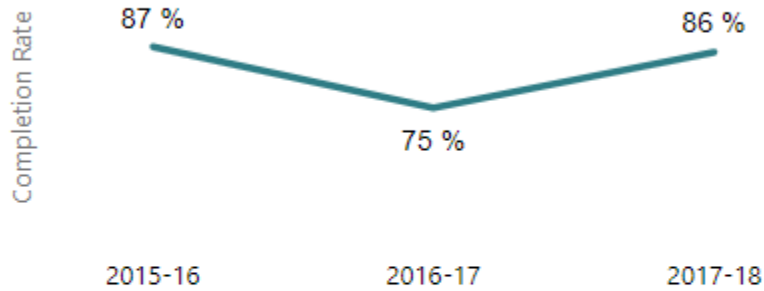
Time of Day

Academic Year	TIME_OF_DAY	No. of Students	Completion Rate
2017-18	DAY	58	81 %
2016-17	DAY	72	71 %
2015-16	DAY	71	82 %

Evening

Time of Day

Time of Day — EVENING



Time of Day

Academic Year	TIME_OF_DAY	No. of Students	Completion Rate
2017-18	EVENING	70	86 %
2016-17	EVENING	28	75 %
2015-16	EVENING	35	87 %

How do the course completion rates for your program or discipline compare to your college's Institution-Set Standard for course completion?

How do the department's Hybrid course completion rates compare to the college course completion standard?

Are there differences in course completion rates between face to face and Distance Education/hybrid courses? If so, how does the discipline, department or program deal with this situation? How do you assess the overall effectiveness of Distance Education/hybrid course?

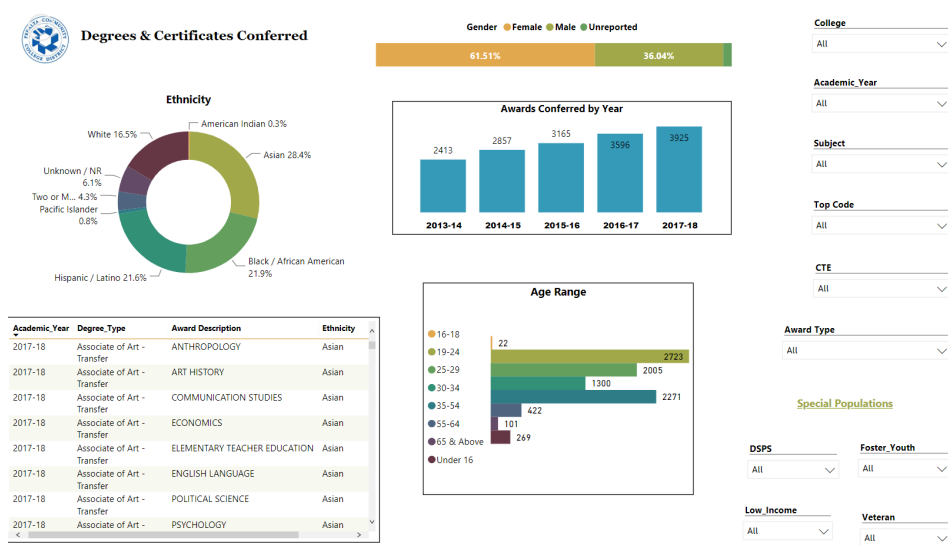
n/a

Describe the course retention rates over the last three years. If your college has an Institution-Set Standard for course retention, how does your program or discipline course retention rates compare to the standard?

Completion & Retention Rates by Subject			
Academic Year	Subject	Completion Rate	Retention Rate
2017-18	PHYS	84 %	91 %
2016-17	PHYS	72 %	84 %
2015-16	PHYS	84 %	91 %

What has the discipline, department, or program done to improve course completion and retention rates?

Degrees & Certificates Conferred



Degrees & Certificates Power BI dashboard

What has the discipline, department, or program done to improve the number of degrees and certificates awarded? Include the number of degrees and certificates awarded by year, for the past three years.

n/a

Over the next 3 years, will you be focusing on increasing the number of degrees and certificates awarded?

What is planned for the next 3 years to increase the number of certificates and degrees awarded?

Engagement

Discuss how faculty and staff have engaged in institutional efforts such as committees, presentations, and departmental activities. Please list the committees that full-time faculty participate in.

Prof. Renbarger currently serves on the Professional Development Committee (was chair during the 2017-18 academic year) and is the recently elected co-chair of the Institutional Effectiveness Committee. He is also the current Vice President of the Academic Senate and a member of the District Academic Senate.

Discuss how faculty and staff have engaged in community activities, partnerships and/or collaborations.

Prof. Renbarger is a volunteer moderator for Bay Area Middle School and High School Science Bowl competitions three times per year.

Discuss how adjunct faculty members are included in departmental training, discussions, and decision-making.

Prof. Simmons will be doing Student Learning Outcome assessment for the Physics 2 series this year.

Prioritized Resource Requests Summary

In the boxes below, please add resource requests for your program. If there are no resource requested, leave the boxes blank.

Resource Category	Description/Justification	Estimated Annual Salary Costs	Estimated Annual Benefits Costs	Total Estimated Cost
Personnel: Classified Staff	<p>Lab technician (permanent part-time appointment, 20 hours per week) for setup and maintenance of physics labs and preparation of lecture demos.</p> <p>There are presently two or three physics classes that have labs, which collectively require the attention of a dedicated staff member. It's too much for the full-timer to deal with. The physics discipline is also looking to propose a Physics 10 lab which would require its own setup and maintenance support.</p>	\$20,000	\$4,000	\$24,000
Personnel: Student Worker				
Personnel: Part Time Faculty				

Personnel: Full Time Faculty	Temporary full-time physics (and astronomy) instructor. Prof. Renbarger may put in for a sabbatical during the 2020-21 academic year	\$35,000 per semester	\$5,000 per semester	\$40,000 per semester
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Resource Category	Description/Justification	Total Estimated Cost
Professional Development: Department wide PD needed		
Professional Development: Personal/Individual PD needed		

Prioritized Resource Requests Summary - Continued

Resource Category	Description/Justification	Total Estimated Cost
Supplies: Software		
Supplies: Books, Magazines, and/or Periodicals		
Supplies: Instructional Supplies	Printer paper Toner cartridges	\$1000

	Markers and erasers Pens, Notepads, Staplers, Paperclips Batteries and other lab consumables (e.g. resistors)	
Supplies: Non-Instructional Supplies		
Supplies: Library Collections		

Resource Category	Description/Justification	Total Estimated Cost
Technology & Equipment: New		
Technology & Equipment: Replacement		

Prioritized Resource Requests Summary - Continued

Resource Category	Description/Justification	Total Estimated Cost
Facilities: Classrooms		
Facilities: Offices		

Facilities: Labs		
Facilities: Other		

Resource Category	Description/Justification	Total Estimated Cost
Library: Library materials		
Library: Library collections		

Resource Category	Description/Justification	Total Estimated Cost
OTHER		