Q21. Welcome to COA's new, online portal for completing your Instructional Program Review. Your work will be saved at the end of each section. If you partially complete a section, *that* section's responses will not be saved. Prior sections will should you need to stop and leave the portal for a period of time and then come back to it. If you have any questions during the process, please email Interim Dean Karen Engel at kengel@peralta.edu or call or text her cell phone at (510) 381-5292. Thank you!

Q1. Please select the discipline, department or program:

PHYS

Q2. Please provide the name of the person(s) completing this Program Review:

Andrew Park

Q3. Please provide a mission statement or brief general statement of the primary goals and objectives of the discipline, department or program. Include any unique characteristics, degrees and certificates the program or department currently offers, concerns or trends affecting the discipline, department or program, and a description of how [the program] aligns with the college mission statement.

The mission of the Physics Department at College of Alameda is to integrate problem-solving with a firm conceptual foundation and laboratory exercises. Students spend time working with other students in class, discussing physics concepts and solving problems together.

We provide comprehensive and flexible programs that empower students to achieve their goals. For example, many students enroll in Physics 10, which is offered as an online course, to satisfy prerequisites for Allied Health programs. Most students enroll in the Physics 4A-4B-4C sequence to satisfy prerequisites for engineering and the physical sciences.

Q23. CURRICULUM

Q7. Please attach your most recent (within the past 3 years) curriculum review report. If you don't have one, please proceed to the next question.

2015 PHYS Curric Rev.docx
127.1KB
application/vnd.openxmlformats-officedocument.wordprocessingml.document

Q8. Have all of your course outlines of record been updated or deactivated in the past three years?

- ○ Yes
- ◉ No

Q9. Please list the courses that still need updating and specify WHEN WILL YOUR DEPARTMENT UPDATE each one, within the next three years (please enter a month and year).

	Enter Month and Year of Anticipated Update
Enter course name Physics 4A	October 2017

Enter course name Physics 4B	October 2017
Enter course name Physics 4C	October 2017
Enter course name	
Enter course name	
Enter course name	
Enter course name	
Enter course name	
Enter course name	
Enter course name	

Q17. Please list the courses you plan to DEACTIVATE and the date you will do so.

	Enter Month and Year of Deactivation
Enter course name	
Enter course name	
Enter course name	
Enter course name	
Enter course name	
Enter course name	
Enter course name	
Enter course name	
Enter course name	
Enter course name	

Q10.
What are the discipline, department or program of study **plans for curriculum improvement** (i.e., what are the courses or programs to be developed, enhanced, or deactivated)?

We plan to design and offer a lab course to accompany the lecture-only course Physics 10, to be taken either concurrently or after having taken the lecture course. The lab course, tentatively called "Physics 10L", is in planning in stage. The course outline of record will be submitted for review and approval process within Fall 2017. Andrew Park is consulting with physics instructors at Laney, BCC, and Merritt throughout this process of offering a new course.

Q12. Please list the name and type of **degree** your program offers.

	AA	AS
Enter name of degree	○	○
Enter name of degree	○	○
Enter name of degree	○	○
Enter name of degree	○	○
Enter name of degree	○	○

Q16. Please list the name and type of **certificates** your program offers.

	CA	CP
Enter name of certificate	○	○
Enter name of certificate	○	○
Enter name of certificate	○	○
Enter name of certificate	○	○
Enter name of certificate	○	○
Enter name of certificate	○	○
Enter name of certificate	○	○
Enter name of certificate	○	○
Enter name of certificate	○	○
Enter name of certificate	○	○

Q13. Please specify how much of each **DEGREE** can be completed online.

	NOT online	At least 50% is online	100% is online (Distance Ed)
Enter name of degree	○	○	○
Enter name of degree	○	○	○
Enter name of degree	○	○	○
Enter name of degree	○	○	○
Enter name of degree	○	○	○

Q92. Please specify how much of each **CERTIFICATE** can be completed online.

	NOT online	At least 50% is online	100% is online (Distance Ed)

Enter name of certificate			
Enter name of certificate			
Enter name of certificate			
Enter name of certificate			
Enter name of certificate			
Enter name of certificate			
Enter name of certificate			
Enter name of certificate			
Enter name of certificate			
Enter name of certificate			

Q24. ASSESSMENT

Q20. Please attach the TaskStream "At a Glance" report for your discipline, department, or program for the past three years (or the most recent year with SLO assessments). Please review the "At a Glance" reports and answer the following questions:

PHYS-2014-2017-CourseSLOs.zip
355.8KB
application/x-zip-compressed

Q14. How does your discipline, department or program ensure that students are aware of the student learning outcomes (SLO's) of the courses and instructional programs in which they are enrolled?

- [x] Provide in writing on first day of class
- [x] Post on the program website
- [ ] Post on department bulletin board
- [ ] Other (please describe)

Q19. Where are your discipline, department or program course and program student learning outcomes (SLO's) published?

- [x] Syllabi
- [x] Course Catalog
- [x] Department Website (please provide link to SLO's) http://alameda.peralta.edu/physics/
- [ ] Other (please specify)

Q22. Briefly describe at least three of the **most significant changes/improvements** your discipline, department or program made in the past three years as a response to course and program assessment results. Please state the course number or program name and assessment cycle (year) for each example.

☑ Significant change or improvement #1:

In Physics 4B, students were having difficulty solving problems that required them to set up integrals to represent a physical system, in calculation of electric fields and magnetic fields (in communication with Patti Tsai, instructor for Physics 4B in 2014-2015 and 2015-2016 cycles). In response to this, Physics 4A curriculum was modified to gradually introduce students to the situations that require setting up similar integrals in physically more relatable situations involving energy and rotation.

We are still assessing effectiveness of this approach over multi-semester sequence courses Physics 4A-4B-4C.

☑ Significant change or improvement #2:

Physics 10 (taught only online at College of Alameda) has had a persistently low success rates, both when compared to face-to-face courses at a similar level at other colleges (taught by the same instructor) and compared to face-to-face courses at more difficult levels taught at CoA (calculus-based Physics 4 series, some taught by same instructor as Physics 10). Several changes were made to Physics 10 in 2015-2016 cycle to address low success rates. The first of these changes was switching online homework website to that provided by the textbook's publisher, so that the students had access to the e-book version of the textbook through the online homework website, at a lower overall cost to the students, when compared to the previous online homework website, in combination with separately purchased textbook. Students were also required to register on this online homework website by the end of second week to avoid being dropped as "no-show."

☑ Significant change or improvement #3:

Physics 10 (taught only online at College of Alameda) has had a persistently low success rates, in multiple benchmarks. Several changes were made to Physics 10 in 2015-2016 cycle to address low success rates, some of which were described above. An additional significant change was supplemental material made available to the students. In an informal survey and assessment, students requested more assistance than lecture slides. So, additional multimedia materials were provided, starting initially with the narration of lecture slides, and starting in Fall 2016, the complete set of lecture videos produced by the instructor for the class.

☑ (Optional) additional significant changes or improvements:

Additional efforts to improve student performance in the online Physics 10 class includes development of multimedia-oriented discussion forum, to encourage additional student participation and nurturing interest in the course content.

In Physics 4A, 4B, and 4C classes, additional laboratory exercises were developed to help introduce physical concepts.

Note: Status Report from TaskStream is empty. These and above changes are as a result of ongoing informal assessments by the instructor. Detailed course records kept by the instructor (excepting one semester's worth of discussion forums wiped out in a Moodle crash in Spring 2017) are available on request.

Q93. Please attach the data from the "Status Report" section of TaskStream for the findings discussed above.

PHYS-2015-2016-StatusReport.pdf
119.4KB
application/pdf

Q26. Briefly describe three of the **most significant examples** of your discipline, department or program plans for course and/or program level improvement for the next three years as a result of what you learned during the assessment process. Please state the course number or program name for each example.

Array

Q94. Please attach the data from the "Assessment Findings and Action Plan" section of Taskstream for each example discussed above.

PHYS-2014-2017-CourseSLOs.zip
355.8KB
application/x-zip-compressed

Q27. Describe how assessment results for **Distance Education** courses and/or programs compare to the results for the corresponding face-to-face classes, if applicable.

Direct comparison of distance education courses with face-to-face classes is difficult for College of Alameda Physics Department, as the only class offered as distance education is Physics 10, which is not offered as a face-to-face class at College of Alameda.

However, using different face-to-face courses taught by the same instructor (Andrew Park) as basis for comparison, the distance education course (Physics 10) suffers from a higher attrition rate in the first weeks of the semester and a lower completion rate.

Q28. Describe assessment results for courses with **multiple sections**. Are there similar results in each section?

As each course in Physics Department is offered in only one section each semester, section by section comparisons are not available.

Q29. Describe your discipline, department or program participation in assessment of COA's institutional level outcomes (ILOs).

Physics Department's SLOs were mapped to COA's ILOs in the past (2006-2009 ILOs), but no mapping is found for the active ILOs on TaskStream. The old mapping needs to be updated.

Q30. How are your course and/or program level outcomes aligned with COA's institutional level outcomes (ILOs)? Please describe the "Goal Alignment Summary" from TaskStream.

Using the old ILOs (2006-2009), which lists 7 general areas (Foundation Skills, Personal Development and Management, Communication, Critical Thinking and Problem Solving, Creativity, Intercultural Literacy and Interaction, and Responsibility), SLOs for all four courses taught in Physics Department (Physics 10, 4A, 4B, and 4C) were mapped to all 7 areas. But the mapping needs to be updated to the current ILOs.

Q95. Please attach the "Goal Alignment Summary" from TaskStream.

PHYS-Courses-ILO-Mapping-2006-2009.zip
398.7KB
application/x-zip-compressed

Q31. INSTRUCTION

Q32. Describe **effective and innovative strategies** used by faculty to involve students in the learning process.

For the online Physics 10 class, multimedia material has been used to prompt student discussion forums (curated YouTube videos, embedded into the Q&A forum on Moodle). This has increased student participation in the discussion forum, as well as performance on exam questions based on same topics. However, additional strategy for encouraging student-to-student interaction in the learning process is needed.

The Physics 4A, 4B, 4C classes use a combination of lecture and in-class discussion model. Students discuss and test each others' understanding of physics concepts during group work exercises throughout the semester, as well as during the accompanying lab sections.

Q33. How has **new technology** been used by the discipline, department or program to improve student learning?

For the online Physics 10 class, screen capture and video editing softwares (OBS Studio and Lightworks) have been used to create lecture videos, which are uploaded on YouTube and embedded on the course Moodle shell.

For the Physics 4A, 4B, and 4C classes, physics simulations (both general-purpose simulations such as Algodoo and specifically-developed simulations available on PhET.colorado.edu) are used to illustrate key physical concepts, in addition to the usual utilization of measurement equipment during applicable labs. Also, the same technologies used for Physics 10 has been used to extend available lecture material (videos created outside of class time and uploaded on Moodle for students to watch, optionally).

Q34. 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 (some online but not 100%), and Distance Education (100% online) courses?

The majority of course grade is determined by the method of examination under a controlled setting. This ensures that students earning a grade of A or B have demonstrated a level of competence and mastery of the topics. Exam questions are occasionally compared with exam questions in similar courses at other institutions (community colleges and University of California) for the standards of competence upheld.

Q35. If your program offers Distance Education classes, how do you ensure they have the same level of rigor as the corresponding face-to-face classes?

The instructor for online Physics 10 has taught similar classes in face-to-face environment (at other community college districts and 4-year universities), so the instructor is familiar with the expected level of performance on exams for Physics 10 and the academic standards that need to be upheld. In addition, combination of online and in-person tests are utilized to ensure the integrity of final grades that the students earn.

Q36. Briefly discuss the enrollment trends of your discipline, department or program over the past three years. An "**Enrollment Trends**" data dashboard is available on the left side of the COA Program Review webpage. Please sure to set the filters for College of Alameda and then your program and courses.

Enrollment trends for Physics 10 and Physics 4A are stable. Enrollment for Physics 4B and 4C has seen a dip in 2016-2017 (the last year in the cycle).

Q31. Feel free to download your data (see "Download" at the lower right corner of the Enrollment dashboard) and attach data here.

PHYS-Enrollment-2014-2017.zip
262.1KB

application/x-zip-compressed

Q32. Please provide an explanation of student demand for specific courses (or lack thereof).

The one-semester dip in enrollment for Physics 4A (Fall 2015) can be explained as a result of schedule conflict with a co-requisite class (Math 3B) at College of Alameda. In addition, I believe that the biggest contributing factor to the drop in enrollment for Physics 4B and Physics 4C in recent years is the schedule for these classes. Physics 4B and Physics 4C at College of Alameda in the past year has been scheduled with day-time lecture sections and evening-time lab sections, making it convenient neither for students with day-time obligations nor for students who prefer to get home before 9 p.m.

Q33. Find the "**Productivity**" data dashboard on the left side of the COA Program Review webpage. Filter for your program and/or course. Compare the productivity (total FTES/total FTEF) for your discipline, department or program to that of the College's overall productivity rate. College of Alameda's overall productivity rate for 2016-17 was 15.46. Definitions can also be found on the COA Program Review webpage.

The productivity for Physics Department met or exceeded the College's overall productivity rate for each of the semesters under review (Fall 2014 through Spring 2017), EXCEPT for Fall 2015 and Spring 2017.

Q34. What are the salient factors, if known, affecting the enrollment and productivity trends for your program with you mention above?

The drop in Physics Department's Fall 2015 productivity can be attributed to the conflict with the co-requisite class mentioned above (we are committed to avoiding a similar conflict in the future). The drop in Physics Department's Spring 2017 productivity is due to the drop in the enrollment in Physics 4B and 4C, which we believe was due to the scheduling at inconvenient times for our students.

Q35. Are courses scheduled in a manner that meets student needs and demands?

- ○ Yes
- ◉ No

Q36. How do you know whether or not courses are scheduled in a manner that meets student needs and demands?

Several students have complained about having to be on campus from 1 p.m. to 9 p.m. on days when they have lab and lecture section of Physics 4A or 4B scheduled.

Q37. Please provide any recommendations and priorities for improving enrollment in your program.

We have already changed our scheduling for Physics 4A, 4B, and 4C in Spring 2018 so that each class either fits into day-time or evening-time block (Physics 4A and 4B are scheduled for evening-time block; Physics 4C is scheduled for day-time block). We will monitor enrollment for Spring 2018, and we believe we should schedule Physics 4A, 4B, and 4C classes at COA in a way that: (1) avoids conflict with co-requisite classes at COA, and (2) avoids conflict with same class offered elsewhere in the district (Laney, BCC, and Merritt all offer the same courses that COA does).

We recommend/request a study of template student education plan so that courses that students commonly take at the same time as Physics 4A, 4B, and 4C classes can be identified, and we can communicate with relevant departments at COA to avoid conflicts with these classes.

Q38. STUDENT SUCCESS & STUDENT EQUITY

The course completion standard *(percentage of students earning a grade "C" or better, or earning "Credit")* for the College of Alameda is 66%. In the sections below, please describe the course completion rates for each of the courses in your discipline, department or

program for each of the past three years. [Please access the "**Course Completion**" data dashboard on the left of the COA Program Review webpage to access this data. Use the DE filter to evaluate face-to-face courses (set the DE filter to "NULL" by themselves, hybrid and distance ed. courses]. To download an image of your dashboard - see the "Download" button at the lower right corner of the dashboard. Feel free to attach the data here **OR** enter it in below.

PHYS-F2F-Completion.pdf
114.2KB
application/pdf

Q39. Please enter the course completion rate for each of the **face-to-face (NOT online - set DE filter to "NULL")** course in your program for each of the last three years.

	2014-15 Completion rate (%)	2015-16 Completion Rate (%)	2016-17 Completion Rate (%)
Course Name & Number: Physics 4A	77	60	87
Course Name & Number: Physics 4B	74	83	85
Course Name & Number: Physics 4C	82	85	91
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			

Q40. Please review the student equity "**Course Completion**" data provided on COA's Program Review website. Are there any differences in **face-to-face** course completion rates when dis-aggregated by the following sub-populations.? If your answer is "yes" to any of the below, please describe this difference.

	Any difference in student course completion rates?		If yes, please describe the difference:
	Yes	No	Answer 1
Age	◉	○	Success rate for groups of age 30 and above are slightly (but statistically significantly) lower, and the trendline is flat to downward.
Ethnicity	○	◉	
Gender	○	◉	
Foster Youth status	○	◉	
DSPS (disability status)	○	◉	
Low income status	◉	○	Answer was marked yes, because low income status was unknown for 127 students (out of 145) in 2016 and 63 (out of 70) for 2017 (there is some issue with data).
Veterans status	○	◉	

Q48. Please discuss the differences (if any) in **face-to-face** course completion rates across dis-aggregated groups.

Some differences are difficult to detect, due to small population size: foster youth, DSPS, and veteran groups make up only a handful of students each year, making statistical error on their completion rate high. One difference was recognizable: Students at age 30 and above are not passing at the same rate as younger students, and the trend line for the completion rate is downward (against the modestly increasing completion rate for the aggregated group).

Q101. Does your program offer any hybrid (more than 51% online) or distance education (100% online) courses?

◉ Yes
○ No

Q41. Please enter the course completion rate for each of the **HYBRID (more than 50% but less than 100% online - see this in the "DE" filter)** course in your program for each of the last three years.

	2014-15 Completion rate (%)	2015-16 Completion Rate (%)	2016-17 Completion Rate (%)
Course Name & Number Physics 10	57	49	81
Course Name & Number			

Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			

Q42. Please review the student equity data provided on the "**Course Completion**" data dashboard on the COA Program Review website (click on your program's name). Are there *differences* in the **HYBRID** course completion rates when dis-aggregated by the following? If your answer is "yes" to any of the below, please describe this difference.

	Any difference in student course completion rates?		If yes, please describe the difference:
	Yes	No	Answer 1
Age	○	◉	
Ethnicity	◉	○	"Asian", second largest group after "White", complete at a slightly lower level (by a statistically significant amount)
Gender	○	◉	
Foster Youth status	○	◉	
DSPS (disability status)	○	◉	

Low income status	○	◉	
Veterans status	○	◉	

Q49. Please discuss the differences (if any) in **HYBRID** course completion rates across dis-aggregated groups.

"Asian" group completed at a rate of 60% (6 out of 10 passed) in 2017, compared to 81% pass rate overall or 91% pass rate by "White" group, for 2017 (10 out of 11 passed). But it's possible this is due to small sample size.

Q45. Please enter the course completion rate for each of the **Distance Education (100% online) - using the "DE" filter -** course in your program for each of the last three years.

	2014-15 Completion rate (%)	2015-16 Completion Rate (%)	2016-17 Completion Rate (%)
Course Name & Number Physics 10	53	57	NA
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			
Course Name & Number			

Q46. Please review the student equity data provided on the **Course Completion** dashboard (using the "DE" filter) on the COA Program Review webpage. Are there *differences* in the **Distance Education (100% online)** course completion rates when dis-aggregated by the

following? If your answer is "yes" to any of the below, please describe this difference.

	Any difference in student course completion rates?		If yes, please describe the difference:
	Yes	No	Answer 1
Age	○	◉	
Ethnicity	◉	○	Completion rate for all ethnicities other than "White" varies quite a bit from semester to semester.
Gender	○	◉	
Foster Youth status	○	◉	
DSPS (disability status)	○	◉	
Low income status	○	◉	
Veterans status	○	◉	

Q51. If there are differences in course completion rates between **face-to-face** and **Distance Education/Hybrid** courses, how does the discipline, department or program deal with them ?

The instructor for the online Physics 10 has been working on different aspects of the class, with the target goal that the completion rate for online Physics 10 should be equal to or better than the completion rate for Physics 4A, 4B, or 4C, because Physics 10, as an introductory class, is an easier class than Physics 4A, 4B, or 4C.

Q52. How do you assess the overall effectiveness of **Distance Education/Hybrid** courses?

Online Physics 10 class is very effective in terms of meeting the needs and demands of students. It always fills to capacity at the beginning of the semester, and students living far from Alameda has enrolled (farthest to date has been a student attending school in London who completed the course successfully). Many students who enroll are those who could never enroll in a face-to-face physics class, because their work schedule wouldn't allow it.

However, improvements are needed: (1) Attrition rate is high (even though each semester, 40 students plus 5 or more students on wait list start the semester on the first day, after 2 weeks, typically 35 or fewer students remain), and (2) consistent improvement on completion rate is needed (historical average completion rate for Physics 10 is below 60%).

Q64. Using the "**Retention**" data dashboard on the COA Program Review webpage, please enter program's overall **retention rate** (after the first census, the percent of students earning any grade by a "W" in a course or series of courses) for each of the last three years (filter for College of Alameda and your Department).

	2014-15 Retention rate (%)	2015-16 Retention Rate (%)	2016-17 Retention Rate (%)
Program Retention Rate	72	67	86

Q53. Describe the discipline, department, or program retention rates for the past three years.

The retention rate was higher for 2016-2017, but as enrollment for 2016-2017 was substantially lower, we need to continue monitoring data to include retention rate trends for high-enrollment years.

Q54. How does your discipline, department, or program course **retention rates** compare to the College's retention standard? College

of Alameda's retention rate standard is: 47%.

- (•) Higher
- ( ) The same
- ( ) Lower

Q56. Please review the student equity data available in the "**Retention**" data dashboard by filtering for your Department and (course) Catalog Description as well as each of the sub-populations listed below. Are there differences in the course **retention rates** when disaggregated by the following? If your answer is "yes" to any of the below, please describe this difference.

	Any difference in student course completion rates?		If yes, please describe the difference:
	Yes	No	Answer 1
Age	( )	(•)	
Ethnicity	(•)	( )	Retention rate for underrepresented minorities is lower by statistically significant amount.
Gender	( )	(•)	
Foster Youth status	( )	(•)	
DSPS (disability status)	( )	(•)	
Low income status	(•)	( )	As in a previous question, low-income status is unknown for large number of students in 2016 and 2017.
Veterans status	( )	(•)	

Q57. What has the discipline, department, or program done to improve course completion and retention rates?

We have taken two-pronged approach towards completion and retention rates. First is early communication with the students (one-to-one check-in or email communication), so that students can make an informed choice in the first two weeks of the semester, either committing to the course load for the semester, or dropping the class with tuition fee refund (this does have a short-term negative impact on enrollment). Second is academic support. In Physics 10, primary form of academic support is additional supplemental multimedia material made available (students who learn well from textbook traditionally do well; this is targeted toward students who do not learn well from textbook). In Physics 4A and 4B, we held weekly study groups in partnership with LRC and MESA, led by student study group leaders (former students who have gotten A in Physics 4A and 4B in Alameda in past semesters).

Q58. What is your program planning to do over the next three years to improve course completion and retention rates?

We plan to continue to do more of what is described above. In addition, earlier outreach for Physics 10 is needed. A significant fraction of students enroll in online Physics 10 without realizing the level of effort that must be put in (they are surprised by the demands of online homework and exam). Earlier outreach (and gentle encouragement to drop, until these students are ready to put in the required work) could free up space in enrollment that can be taken by students who are ready.

We continue to monitor our course success rates, as we make incremental improvements to our courses (making supplemental instructional materials available and changing structure of the classes, such as setting up an online homework system for Physics 4A, 4B, and 4C).

Q65. Using the **Degrees and Certificates** data dashboard on the COA Program Review webpage, please review the number of degrees and certificates awarded by your program each year, for the past three years. Please attach a data chart here (you can download an image of your dashboard by clicking "Download" in the lower right corner, saving, and attaching here) or enter the data in the question below.

Q66. If you do not attach a data chart above, please enter the information here:

	Number of Awards 2014-15	Number of Awards 2015-16	Number of Awards 2016-17
Degree or Certificate			
Degree or Certificate			
Degree or Certificate			
Degree or Certificate			
Degree or Certificate			
Degree or Certificate			
Degree or Certificate			
Degree or Certificate			
Degree or Certificate			

Q67. What has the discipline, department, or program done to improve the number of degrees and certificates awarded?

Not applicable yet. There are not degree or certificate programs (yet) for Physics.

Q68. What is the discipline, department, or program planning to do over the next three years to improve the number of degrees and certificates awarded?

We plan to start offering a physics associates degree. Although Physics AS-T is not possible currently due to the large number of units required (minimum number of units we would need to require for a curriculum satisfying model transfer curriculum is 61 units), in consultation with the articulation officer, we decided to go ahead with an associate degree for transfer (but without admissions guarantee to CSU), to help improve counseling and guidance for students whose goals are to transfer to physics and engineering programs. In addition, once IGETC for STEM is approved for Physics (lowering number of units we would need to require), we plan to offer a Physics AS-T, as soon as possible.

Q69. HUMAN, TECHNICAL, and PHYSICAL RESOURCES (including equipment & facilities)

Q70. Describe your current level of staff, including full-time and part-time faculty, classified staff, and other categories of employment.

	Enter numbers
Full-time faculty headcount	1

Part-time faculty headcount	0
Total FTEF faculty for the discipline, department or program	1
Full-time/part-time faculty ratio	100000
Classified staff headcount	0

Q71. Describe your current utilization of facilities and equipment.

Physics classes are held in Room 100 in Science Annex, which is well maintained and, after targeted expenditure of 2016-2017 equipment and supply funding, appropriately designed for instruction. Room 100 is currently at near full capacity in terms of classes that can be held, but it is sufficient for the number of Physics 4A, 4B, and 4C courses we plan to offer for the near future.

Additional lecture demo and lab equipment are always needed, but the largest set of needs (for electricity and magnetism demos) was met using equipment funding from 2015-2016.

Q72. What are your key **staffing** needs for the next three years? Why?

At the current level, staffing needs for Physics is largely met. The one full-time instructor can teach all the physics classes currently offered. However, for the sustainability and stability of the program, Physics Department needs to offer more classes (possibly Physics 10 as dual-enrollment course) to justify consistent hiring of one additional part-time instructor. Currently we are hiring a new FDIP intern for Spring 2018, but to be able to retain well-qualified part-time instructors over the long term, we need to be able to offer a consistent workload semester over semester.

Other staffing needs (such as student aide for physics study group) have been met by leveraging existing college resources (primarily LRC), and they are expected to be met the same way for the near future.

Q98. Please provide evidence to support any request for additional staffing such as assessment data, student success data, enrollment data, and/or other factors. Attach supporting documents here.

Q73. What are your key **technological** needs for the next three years? Why?

Our key technological need is continued maintenance of existing lab equipment and expansion of existing lab exercises (possibly using new equipment) for Physics 4B and 4C. To this end, we request $5000 for anticipated purchase of replacements of existing equipment (Physics 4B "charge-to-mass ratio" lab in particular does not have enough equipment for a full class of 40 students), and equipment for piloting new physics labs, both for expanding Physics 4B and 4C labs, and for lab exercises to be designed for the planned new Physics 10L lab course (draft COR attached).

Q99. Please provide evidence to support any **technology resource** request such as assessment data, student success data, enrollment data, and/or other factors. Attach supporting documents here.

PHYS-010L-COR-Draft.pdf
248.3KB
application/pdf

Q74. What are your key **facilities** needs for the next three years? Why?

Our key facilities need is continued near-exclusive use of Room 100 for Physics. Near-exclusive use of Room 100 for physics allows for preparation of lab and lecture courses within the limited staffing resources of Physics Department.

Q100. Please provide evidence to support any **facilities request** such as assessment data, student success data, enrollment data, and/or other factors. Attach supporting documents **here.**

PHYS-Prior-Year-Resource-Utilization-Self-Evaluation-Template.xlsx
21.6KB
application/vnd.openxmlformats-officedocument.spreadsheetml.sheet

Q75. Please be sure to complete the "Prior-Year Resource Utilization Self Evaluation" template available on your program's Program Review webpage - click on your program's name and select "Prior Year Resource Utilization" Template." Upload the completed template here:

PHYS-Prior-Year-Resource-Utilization-Self-Evaluation-Template.xlsx
21.6KB
application/vnd.openxmlformats-officedocument.spreadsheetml.sheet

Q97. Please be sure to complete the Comprehensive Instructional Review Resource Request for template available on your program's Program Review webpage - click on your program's name and select "Resource Request Template." Upload the completed template here:

PHYS-Comprehensive-Instructional-Program-Review-Prioritized-Resource-Requests-Summary.xlsx
10.2KB
application/vnd.openxmlformats-officedocument.spreadsheetml.sheet

Q76. COMMUNITY, INSTITUTIONAL, and PROFESSIONAL ENGAGEMENT & PARTNERSHIPS

Q77. Discuss how faculty and staff have engaged in institutional efforts such as committees, presentations, and departmental activities.

The sole full-time faculty Andrew Park serves on enrollment management committee for 2017-2018 (and have served on student success committee for 2016-2017, and is currently an inactive member for curriculum committee due to schedule conflict). He also serves on Open Educational Resources Subgroup.

Andrew Park, as co-chair of Physical Sciences, also coordinates with other STEM departments to ensure calculus-based physics classes are scheduled in a way that does not conflict with other math and sciences classes.

Q78. Please list the committees that full-time faculty participate in.

Committee 1	Enrollment Management
Committee 2	Open Education Resources Subgroup
Committee 3	

Committee 4	
Committee 5	
Committee 6	
Committee 7	
Committee 8	
Committee 9	

Q79. Discuss how faculty and staff have engaged in community activities, partnerships and/or collaborations.

Andrew Park collaborated with Math Department Chair Vanson Nguyen and then CIS Chair Marilyn Varnado to submit a proposal for Zero-Textbook Cost Degree implementation program, providing up to $150,000 for 2018 to implement a zero-textbook-cost pathway for Math AS-T. This educational reform effort is expected to benefit students in COA's service area by making STEM education more affordable for them. Faculty from Physics Department (Andrew Park and new FDIP intern) is expected to continue to participate in this project as it continues in 2018.

Q80. Discuss how adjunct faculty members are included in departmental training, discussions, and decision-making.

Currently there are no adjunct faculty members in Physics Department. But we expect to host a new FDIP intern in Spring 2018 who will be included as a member of Physical Sciences Department in all activities involving faculty.

Q81. PROFESSIONAL DEVELOPMENT

Q82. Please rank order the types of professional development (PD) needs or your discipline or department. Drag each item to place it in the appropriate order. Add types of PD by filling in the blanks.

Other (please specify) Attendance at conferences (with workshops and programs covering all other areas listed below)	1
Instructional methods	2
Use of online resources	3
Cultural sensitivity	4
Faculty mentoring	5
Classroom technology	6
Other (please specify)	7
Other (please specify)	8
Other (please specify)	9
Other (please specify)	10

Q83. Please describe the professional development needs of your discipline or department.

Physics Department's primary professional development needs are in continued support (financial and otherwise) in attendance of conferences and workshops related to the teaching area.

Andrew Park attended Online Teaching Conference 2017, held in Anaheim and found information presented at the conference very valuable, both in terms of improving online teaching and also in preparing for the Zero-Textbook Cost Degree program application. He also plans to attend local American Association of Physics Teachers (AAPT) meeting (to be held in San Francisco), as well as the national meeting (to be held in San Diego).

Q84. How do you train new instructors in the use of Distance Education platforms?

We plan to train new instructors (particularly new FDIP intern for Spring 2018) in the use of the new Canvas platform by providing a template to learn from, and by providing one-on-one in-person support as needed.

Q85. Is your program's method for training new instructors in the use of Distance Education platforms sufficient?

- ○ Definitely yes
- ◉ Probably yes
- ○ Might or might not
- ○ Probably not
- ○ Definitely not

Q86. DISCIPLINE, DEPARTMENT, OR PROGRAM GOALS & ACTIVITIES

Q87. Briefly describe and discuss the discipline, department or program goals and activities for the next three years, including the rationale for setting these goals. NOTE: You will also be asked to complete and Integrate Goal Setting Table in the next section. Progress in attaining these goals will be assessed in subsequent years through annual program updates (APUs).

Following are the goals, in the order of priority and expected completion.

Physics Department will offer a new physics associate degree. Although this associate degree will not have the same benefit as AS-T (no transfer guarantee to CSU), this will provide guidance to physics and engineering transfer students what courses they need to complete to stay on target for their academic goal. Currently all physics and engineering transfer students at COA have to forge their own path.

Physics Department at COA will pilot a new lab course to be paired with Physics 10 (called tentatively Physics 10L). This is to be done in consultation with Laney, BCC, and Merritt, with the intention that other campuses will offer similar Physics 10L sections, if the pilot at COA is successful (in terms of enrollment and completion).

Physics Department at COA will explore engineering courses that may be offered at COA within limited existing resources and courses that will complement offering at Laney.

Q89. On your **Program Review** webpage (click on your program's name), find and complete the "Comprehensive Instructional Program Review Integrated Goal Setting Template." Align your program goals (described briefly above) to the college mission statement and goals and the PCCD strategic goals and institutional objectives. Once the template is complete, SAVE it with your program name and upload it here.

PHYS-Integrated-Goal-Setting-Template.xlsx
13.8KB
application/vnd.openxmlformats-officedocument.spreadsheetml.sheet

Q90. Congratulations! You have completed your Program Review for 2017-18!

PLEASE NOTE: Once you select "Go to the Next Section" below, the information you have entered will be submitted and reviewed by the College of Alameda Validation Committee. A member of your Review Team will contact you about next steps. DO NOT go to the

next section until you are finished with every section as doing so will lock you out of the form. Thanks.

Location Data

Location: (37.849502563477, -121.97639465332)

Source: GeoIP Estimation

Prior Year Resource Utilization Self-Evaluation Form

Directions: Please review your 2016-17 resource allocations and expenditures prvided in the **Expenses 2016-17** tab below. Enter them below and evaluate your use of those funds by completing the table below. Please keep your responses to less than 100 words. If there is additional information, please email it to Interim Dean Engel kengel@peralta.edu. Thank you.

College: COA
ine, Department or Program: Physics
Contact Person: Andrew Park
Date: 20-Oct-17

Funding Source	2016-17 Funding Allocated	2016-17 Funding Expended	Net Expended	Please describe the impact of these expenditures on your **Program Goals**	If you have quantitative evidence of the impact of these expenditures, please provide it here	Please describe the impact of these funds on your **students' outcomes**	If you were not able to utilize all of your resources last year, please explain
General Fund		4402.3	-4402.3				
Instructional Equipment	5000	4300.31	699.69	With new instruction equip	Following are the number o	These funds help us mee	I thought we utilized all
Instructional Supplies	2100	2121.01	-21.01				
Fund 10			0				
Measure A			0				
Strong Workforce			0				
Perkins			0				
Equity		8385.92	-8385.92				
Basic Skills			0				
Work-Study			0				
Other			0				

TOTAL			0				

With which of the College's 10 college goals do these expenditures best align? (See tab below)

These expenditures best align with goals 3 and 5.

College Curriculum Committee
~ Curriculum Review Process

The Curriculum Review Process is an integral part of Program Review and Annual Program Update (APU) processes and involves the faculty of record reviewing the accuracy of the curriculum in their departments once every three years. This is a means by which the faculty "structurally" supported in functioning to meet their obligations under 10+1 "ownership" of curriculum.

The purpose of the curriculum review process is to ensure the quality and institutional curricular "fit" (i.e. vision and mission and plan) of Programs. Within the programs, this process is to ensure the quality of Degrees & Certificates are relevant and in demand; and that Course Outlines of Record (COR) are up to date and reflect state of the discipline quality standards for content and delivery in the curricular offerings at the institution.

The Cluster Chairs are responsible for taking the lead for the departments in their areas facilitating the disciplinary faculty of record to develop, review and update curriculum. In this process, the Chairs Committee, the Institutional Effectiveness Committee (IEC) and Curriculum Committee, with full support of the Office of Instruction, will provide substantive administrative and material support to the Cluster Chairs Committee and disciplinary faculty of record.

In the process of updating curriculum, it is important to note that the Technical Review Committee assesses the degree to which CORs are "technically correct" in determining if a degree, certificate, or course is ready for Curriculum Committee action. These "technical issues" are not about the content per se, but rather about adherence to current State Academic Standards for a quality COR that enables other institutions to know clearly what it is we teach in ac given course (e.g. this is important in the articulation and transfer processes for students). **Here are some crucial links for faculty to utilize in this process**:

- Here is the link to the Program and Course Approval Handbook July 2012
- Here's a link to the new PCAH faculty are able to search topics: http://extranet.cccco.edu/Portals/1/AA/ProgramCourseApproval/PCAH_Final_July2012.pdf
- Here is a ASCCC Guide for CORs: Course Outline of Record Curriculum Guide

This technical process and the district and state time line are required to be successfully negotiated and completed before submission Curriculum Committee and then to the District CIPD committee and the Board for approval. After this is it is approved by the State before it is ready to be offered in the schedule.

The Curriculum Committee in partnership with the Office of Instruction invite the faculty to complete a curriculum review checklist and return it to the committee by the end of September in the year the department is up for curriculum review.

Once the curriculum review form (see below) has been submitted, the curriculum committee reviews the information provided and will schedule a time for the department faculty to meet with the committee to discuss courses and programs.

Program Physics (PHYS)

College of Alameda Curriculum Review Guidelines

This checklist serves as a guide to the items for review by the curriculum committee. Before the meeting, review the presentation checklist below and indicate any changes to your curriculum. Bring this completed checklist to Lynn Torres in the Office of Instruction at least three days prior to the meeting at which the department is scheduled to present their program review. Also, bring any paperwork indicating significant changes, and a degree sequence(s) (if applicable).

Presentations will last about fifteen to twenty minutes.

Presentation Checklist:

☐ The curriculum review process should include collaboration with the division chair, all department faculty, and other campuses (if applicable): ☑

☐ **List of courses offered by department.**
PHYS 10, PHYS 4A, PHYS 4B, PHYS 4C

☐ Verify that all CORs and SLOs are listed on CurriCUNET and TaskStream:
☑

☐ When have the courses been offered at COA last and/or when do you anticipate these be offered again?
PHYS 10 and PHYS 4A are offered during the fall and spring semesters. PHYS 4B is offered during the fall semester. PHYS 4C is offered during the spring semester.

☐ When was the last time any student applied for and receive the degrees or certificates in your area?
N/A.

☐ List what course(s) you intend to add to your program this cycle (the next three years).
When Patti Tsai retires, the new physics faculty member hired may add courses, especially if we are still in growth mode.

☐ What courses do you intend to deactivate this cycle? Courses which have not been taught for four years and, are not likely to be taught in the future or meet a degree requirement, should probably be deactivated.
Independent study in physics has already been deactivated.

Curriculum Review Cycle

Starting in Fall 2015, the College of Alameda Curriculum Committee and the Office of Instruction shall be discussing curriculum updates with each program in the three groups (one each year):

Group A (2015-16)	Group B (2016-2017)	Group C (2017-18)
Natural Sciences	**Arts & Humanities**	**Social & Behavioral Sciences**
BIOL	COMM	PSYCH
CHEM	HUMAN	SOC
~~PHYSC~~ PHYS	PHIL	AFRAM
~~ASTRO~~ ASTR	ART	ASAME
ATHL/KINS	DANCE	MLAT
		SOSC
Business, CIS, MATH, ECON	**Transportation**	ANTH
CIS	ATECH	GEOG
BUS	DMECH	HIST
ECON	ADAM	POSCI
MATH	AMT	GEOL
LIS	**COUN / Student SVCS**	**Language Arts**
	COUN	ENGL
	LS	ESL
	HUSV	SPAN
	LRNE	VIET
		CHIN
		GERM

Curriculum Review Planning Report - College of Alameda

Name of the Discipline:
Physics, PHYS

Date of the Report:
11/16/15

List Faculty Involved in Developing this Report:
Patti Tsai

Please complete this evaluation before your presentation date with the curriculum committee. We ask that you use the checklist on the reverse side to let us know where you are in your curriculum updating and your departmental methods for analyzing and evaluating the contents of course and degree/certificate offerings.
Also, please use CurriCUNET to review all courses taught in your department and any certificates or degrees offered.

- ✓ Let us know what methods you use to maintain the integrity of academic standards and achieve consistency within the instructional program?
- ✓ Use the dates for the Active courses (red) to check the date of last up date.
- ✓ Please use additional pages in necessary.

COURSES

1) List courses in the catalog and the date of the most recent course outline updates.

Course Number	Course Name	Date of Most Recent Update
PHYS 10	Introduction to Physics	8/25/14
PHYS 4A	General Physics with Calculus (1st semester)	4/15/13; Patti Tsai will update Spring 2016
PHYS 4B	General Physics with Calculus (2nd semester)	9/19/07; Patti Tsai will update Spring 2016
PHYS 4C	General Physics with Calculus (3rd semester)	9/19/07; Patti Tsai will update Spring 2016

DEGREES & CERTIFICATE PROGRAM

2) When was last time degrees or certificates were applied for and awarded? If it has been a long time, consider if it is still relevant and in need of deactivation of revision.

3) List degree and certificate programs offered:

Name	Degree	Certificate	Date of Most Recent Update
N/A			

Patti Tsai has been in touch with faculty at Laney, BCC, and Merritt, and would like to set up the AS-T degree in Spring 2016.

College of Alameda –CURRICULUM REVIEW (COURSE VERIFICATION CHECKLIST)

	Completed		Course Verification Checklist
	Yes	**No**	Please use CurriCUNET to review all courses taught in your department and any certificates/degrees offered.
	Completed by	*To be accomplished by*	
1	✓		**COURSE USE** Has the course been offered in the last two years? If not, consider deactivating the course.
2	✓		**DESCRIPTION/CATALOG INFORMATION** Does the course description accurately describe the course?
3	✓		**COURSE ALLIGNMENT** ✓ Do the course description, exit skills / objectives, content, assignments, assessments, and teaching methods all align following the CA State Academic Senate Standards for CORs?
4	✓		**STUDENT LEARNING OUTCOMES** ✓ Does the course/program have up-to-date student learning outcomes and assessment methods? ✓ Do the course exit skills / objectives align with the course and program and COA overarching student learning outcomes?
5	✓		**LECTURE/LAB CONTENT, METHODS** ✓ Are course content and teaching methods listed in the COR current, appropriate and effective? ✓ Are writing skills and critical thinking reinforced?
6	✓ PHYS 10 PHYS 4A	✓ PHYS 4B-C P.T. Sp16	**TEXTBOOK CURRENCY** Is the textbook current? (Transfer institutions require textbooks with a publication date within no more than 5 years)
7	✓		**COLLEGE LEVEL MATERIALS** For degree-applicable courses, are the reading materials at college level?
8	✓ PHYS 10 PHYS 4A	✓ PHYS 4B-C P.T. Sp16	**REQUISITES** ✓ Have you completed the Content Review part of the outline? ✓ Have you reviewed and revalidated the prerequisites, co-requisites, recommended preparations? (Must be done at least every 6 years)
9	✓ PHYS 10		**DISTANCE EDUCATION** ✓ Is there an online option for your courses? ✓ If so, is the distance education addendum current and accurate?
10		✓	**STAND ALONE COURSES** Are any of your courses not degree applicable?
11	✓		**TRANSFER COURSES** Do transfer level courses meet CSU/UC standards? **Contact Articulation Officer Vinh Phan (vphan@peralta.edu).**
12	✓		**DEGREES AND CERTIFICATES** ✓ Are the courses appropriate? ✓ Are the units required appropriate? ✓ Are the descriptions of degrees/certificates current? ✓ Does the degree or certificate fit within the COA Vision & Mission?

PHYSICS

Program Review Fall 2017

Dear Karen,

Following is my response to the question, "Briefly describe three of the most significant examples of your discipline, department or program plans for course and/or program level improvement for the next three years as a result of what you learned during the assessment process. Please state the course number or program name for each example."

- Plan 1: In Physics 4A and 4B (and this is probably also true for Physics 4C), a significant fraction of students underperformed, most likely due to lack of effort put into homework assignments. In order to encourage students' work on the homework assignment (to build familiarity with the topics and to encourage putting in the necessary amount of time to succeed in the 5-unit class), Physics Department will build an online homework library of physics questions on a suitable, zero-cost platform (most likely MyOpenMath, which offers necessary capability). This is a task that will take multiple semesters, with participation from multiple faculty, in order to build a robust library of homework questions.

- Plan 2: Students in Physics 4 series (and Physics 4A especially) need additional help to learn the topics and the problem-solving skills that are necessary to succeed in upper-division level science and engineering courses. In-class time (despite 7 hours per week of contact time) is not enough to bring struggling students up to speed, and leaving students to studying from the book on their own meant a significant fraction of students who do not learn well from textbooks are left behind. Physics Department will build a library of lecture videos at the level of calculus-based physics, both to introduce physics topics and to exemplify physics problem-solving in multimedia format. When the task is complete (in a couple years), we anticipate being able to effectively utilize "flipped" classroom model, as well as start offering Physics 4 series as hybrid courses.

- Plan 3: The cost and complexity of additional homework website for online Physics 10 remains a barrier for student success in the introductory physics course. Some students choose to drop, after finding out the cost of subscribing to an additional website, other students ask why the second website is necessary, and still other students only complete assignments on one website, missing the other website. We will start exploring ways to teach Physics 10 using only open educational resources (a search is in progress for an appropriate open textbook) and zero-cost online homework platform (either built into Canvas or a platform like MyOpenMath, which has a smooth Learning Tools Interoperability (LTI) integration with Canvas).

- Other: Physics Department plans to develop and pilot Physics 10L, a lab-only course to accompany Physics 10, in order to help meet the existing demands (as indicated by students contacting physics instructors about this) for introductory physics with lab better. The goal is for this course to be offered at our sister campuses as well, if the pilot is successful.

It is not an exact copy of what I put down before, but whatever was important should have been repeated in both responses (both the one that disappeared into the cloud and the one that is in this email).

Thank you!

Andrew

College of Alameda - All Fields Course Report

Cover

Overview

Subject PHYS

Course Number 010L

Title Introduction to Physics Laboratory

Description

Practical application of basic concepts and principles of physics: Motion, forces, gravity, matter, energy, momentum, rotation, oscillation, sound, heat, thermodynamics, electromagnetism, light, quantum physics, atoms, nuclei, and relativity. Not open for credit to students who have completed or are currently enrolled in PHYS 2A-2B, 3A-3B, or 4A-4B-4C.

Justification

Physics 10L complements our offering of Physics 10, Introduction to Physics. By taking Physics 10L along with Physics 10, our students will be able to gain a better understanding of basic concepts in introductory physics. The combination of Physics 10L and Physics 10 is also intended to satisfy "physical science with lab" requirements of many transfer institutions.

Modular Course

☐ This a modular course

Additional Information

☐ Open Entry

☐ Credit By Exam

☑ Assignments at College Level

☑ Readings at College Level

Only applicable for CTE. Check NA if you are not sure.

CB23 Funding Agency Category Y - Not Applicable

Co-Contributor

Co-Contributor

Co-Contributor

Cross-Listed Courses

Related

Equivalent Course

List of Changes

Reason for Update (Check All That Apply)

Reason for Update 1) Articulation/Title 5

Course List of Changes

We are proposing a new laboratory course to accompany Physics 10, Introduction to Physics. By offering a lab course to accompany Physics 10, we will be able to improve articulation of Physics 10 to "introductory physics with lab" courses at transfer institutions.

Course objectives were adapted from Contra Costa College's similar lab-only introductory physics course. CCC's course outline of record can be found here: http://docs.contracosta.edu/docs/committees/index.php?dir=Curriculum+Instruction+Committee+(CIC)/Course+Outlines/PHYS/

Units/Hours

Hours

☐ Variable

Units (Min) 52.500

Min Total

Lecture Hours (Min) 0.000

Lab/Studio/Activity Hours (Min) 3.000

TBA Hours (Min) 0.000

Grading Policy and Duration

Grading Policy Both Letter Grade or Pass/No Pass

Minimum Duration 6 Weeks

Add justification if selection is not full semester.

The course may be offered in summer semester.

Enrollment

Enrollment Maximum 40

Repeatability

Is this course repeatable? No

Selected Topic

☐ Previously Offered as a Selected Topic

Degree/Transfer

☐ Program Applicable

Legacy Required for degree/certificate (specify):

Meets GE/Transfer requirements (specify):

CSU GE area B3 IGETC area 5C

CB03 Top Code

Consult the Taxonomy of Programs (TOP) manual on your curriculum committee website for the appropriate TOP code.

CB03 Top Code 1902.00 - Physics, General

CB04 Course Credit Status

Degree Credit: May be used for degree or certificate units, including unrestricted electives to reach 60 units for a degree
Non-Degree Credit: May not be used for degree or certificate units
Non-Credit: Zero units are awarded
Community Services (Fee-based): Zero unit courses for which students pay fees to cover the cost of instruction

Be sure the course number corresponds with its course credit status. Consult your curriculum committee website or college catalog for numbering guidelines.

CB04 Course Credit Status D - Credit - Degree Applicable

CB08 Basic Skill Status

Basic Skills are those foundation skills in reading, writing, mathematics, and English as a Second Language. In addition, it includes learning skills and study skills which are both necessary for students to succeed at the college level.

A course that is Basic Skills must adhere to the following:

CB03: Must be in a TOP Code designated as appropriate for Basic Skills (see "General Studies Basic Skills/ESL Top Codes)"

CB04: May not be designated as "Degree Credit"
CB21: Must specify the level below transfer (see "CB21 Course Prior to College Level Rubrics)"

See "CB08 - Basic Skill Status" for details on appropriate coding

CB08 Basic Skill Status (PBS Status) N - Course is not a basic skills course.

CB09 Sam Codes

CTE course: Must choose options A-D
All others: Must choose option E

See "CB09 - Course SAM Priority Code" for details on appropriate coding

CB09 SAM Code Non-Occupational

CB21 Levels Below

Required only for Basic Skills courses. All others should choose "Not Applicable".

See "CB21 Course Prior to College Level Rubrics" for details on appropriate coding

CB21 Levels Below Transfer Y - Not Applicable

CB24 Program Course Status

Credit Courses

Use Code 1 Program Applicable if the Credit Course is part of a certificate or degree that requires state approval. This includes credit courses that are required or restricted electives for an approved certificate or associate degree, including general education requirements (PCCD, CSU GE-Breadth, or IGETC). Restricted electives are specifically listed as optional courses from which students may choose to complete a specific number of units required for an approved certificate or degree. Courses that are part of a Certificate of Proficiency only are not Program Applicable.

Use Code 2 Stand Alone/Not program Applicable if the credit Course is not required or a restricted elective for any credit program approved by the System Office, or is not approved for general education (PCCD, CSU GE-Breadth, or IGETC) or is part of a Certificate of Proficiency only

Noncredit Courses

Use Code 1 if the noncredit course is part of a sequence of courses or program that results in a certificate of completion or a certificate of competency.

Use Code 2 if the noncredit course is not part of a sequence of courses or program that results in a certificate of completion or a certificate of competency.

CB24-Program Course Status 1 - Program Applicable

General Education

C-ID Information

C-ID Number

Status for C-ID

C-ID Status

Expiration Date

General Education

CSU/UC Transfer Course

- [ ] A. Transfers to CSU;UC
- [ ] B. Transfers to CSU
- [ ] C. Non-transferable
- [ ] D. Transfers to CSU;UC, with limits
- [ ] E. Transfers to CSU; UC, with conditions
- [x] F. Transfers to CSU; UC, pending review

IGETC Area 1: English Communication

- [ ] A: English Composition
- [ ] B: Critical Thinking-English Composition
- [ ] C: Oral Communication

IGETC Area 2: Mathematical Concepts and Quantitative Reasoning

- [ ] A: Mathematic

IGETC Area 3: Arts and Humanities

- [ ] A: Arts
- [ ] B: Humanities

IGETC Area 4: Social and Behavioral Sciences

- [ ] A: Anthropology and Archaeology
- [ ] B: Economics
- [ ] C: Ethnic Studies
- [ ] D: Gender Studies
- [ ] E: Geography
- [ ] F: History
- [ ] G: Interdisciplinary, Social & Behavioral Sciences

- [ ] H: Political Science, Government & Legal Institutions
- [ ] I: Psychology
- [ ] J: Sociology & Criminology

IGETC Area 5: Physical and Biological Sciences (mark all that apply)

- [ ] A: Physical Science with Lab
- [ ] B: Biological Science with a Lab
- [ ] B: Biological Science without a Lab
- [ ] B: Biological Science, Lab only
- [ ] A: Physical Science without Lab
- [x] A: Physical Science, Lab only

IGETC Area 6: Language other than English (101 Level only)

- [ ] A: Languages other than English (UC Requirement Only)

CSU GE Area A: Communication in the English Language and Critical Thinking

- [ ] A1 - Oral Communication
- [ ] A2 - Written Communication
- [ ] A3 - Critical Thinking

CSU GE Area B: Physical and its Life Forms(mark all that apply)

- [ ] B1 - Physical Science
- [ ] B2 - Life Science
- [x] B3 - Laboratory Sciences
- [ ] B4 - Mathematics/Quantitative Thinking

CSU GE Area C: Arts, Literature, Philosophy and Foreign Languages

- [ ] C1 - Arts, Dance, Music, Theater
- [ ] C2 - Humanities

CSU GE Area D: Social, Political, and Economic Institutions and Behavior, Historical

- [ ] D1 - Anthropology and Archeology
- [ ] D2 - Economics
- [ ] D3 - Ethnic Studies

- [ ] D4 - Gender Studies
- [ ] D5 - Geography
- [ ] D6 - History
- [ ] D7 - Interdisciplinary Social and Behavioral Science
- [ ] D8 - Political Science, Government, and Legal Institutions
- [ ] D9 - Psychology
- [ ] D10 - Sociology and Criminology

CSU GE Area E: Lifelong Understanding and Self-Development

- [ ] E - Lifelong Understanding and Self-Development

CSU GE Area US1, US2, US3

- [ ] US1
- [ ] US2
- [ ] US3

IGETC Area US1, US2, US3

- [ ] US1
- [ ] US2
- [ ] US3

Peralta GE Areas

- [x] AREA ONE: NATURAL SCIENCES
- [ ] AREA TWO: SOCIAL AND BEHAVIORAL SCIENCES
- [ ] AREA THREE: HUMANITIES
- [ ] AREA FOUR: LANGUAGE AND RATIONALITY: English Composition
- [ ] AREA FOUR: LANGUAGE AND RATIONALITY:Mathematics
- [ ] AREA FOUR: LANGUAGE AND RATIONALITY:Computer Literacy
- [ ] AREA FOUR: LANGUAGE AND RATIONALITY: Oral and Written Communications, or Literature
- [ ] AREA FIVE: ETHNIC STUDIES

Lecture/Lab Content

Lecture Outline

N/A

Lab Outline

Unit 1. Motion and Forces (15%)

Unit 2. Energy and Momentum (15%)

Unit 3. Fluids, Heat, and Thermodynamics (15%)

Unit 4. Oscillations and Waves (15%)

Unit 5. Electricity and Magnetism (15%)

Unit 6. Optics (10%)

Unit 7. Quantum Mechanics and Modern Physics (15%)

Student Performance Objectives

If an Objective cannot be deleted, make sure a Content-Review found in the Content Validation Page is not using that objective.

Objectives

Create Grouping (Optional)

Objective

Use basic measuring devices such as balances, meter sticks, and vernier calipers.

Create Grouping (Optional)

Objective

Analyze data to determine physically meaningful quantities such as velocity and acceleration.

Create Grouping (Optional)

Objective

Apply Newton's Laws to laboratory experiments.

Create Grouping (Optional)

Objective

Demonstrate the validity of Archimedes' Law and buoyancy.

Create Grouping (Optional)

Objective

Build and analyze a simple DC circuit using Ohm's law.

Create Grouping (Optional)

Objective

Build a simple motor utilizing magnetic force on a current-carrying wire.

Create Grouping (Optional)

Objective

Determine the basic properties of a lens and mirror by direct measurement.

Create Grouping (Optional)

Objective

Explain quantum mechanical effects and phenomena with specific examples.

Student Learning Outcomes

Would you like to map these SLOs directly to the ILOs?

Outcome

Outcome Text

Students set up laboratory equipment safely, plan and carry out experimental procedures, identify possible sources of error, reduce and interpret data, and prepare clear written reports.

Assessment Text

Assessment of this learning outcome will be done by: (1) evaluation of laboratory write-ups and (2) observation of laboratory exercises in class.

Outcome Text

Students apply Newton's Laws to analyze motion of an object under constant acceleration.

Assessment Text

Evaluation of a laboratory experiment involving freefall will be used to assess this learning outcome.

Outcome Text

Students correctly assemble a simple electric circuit and analyze the circuit by measuring voltages and currents.

Assessment Text

Evaluation of a laboratory experiment involving a single-battery, single-resistor circuit, analyzed with use of a digital multi-meter, will be used to assess this learning outcome.

Methods of Instruction

Instruction Type

Instruction Type	Field Experience Lab Observation and Demonstration Discussion Projects Experiments Field Trips Individualized Instruction Multimedia Content

Other Methods

Distance Education

☐ Will this course be available for Distance Education?

Instructor-Student Contact

Instructor-Student Contact is only available for Distance Education courses.

Assignments

Out-of-class Assignments (List all assignments, including library assignments. Requires two (2) hours of independent work outside of class for each unit/weekly lecture hour. Outside assignments are not required for lab-only courses, although they can be given.)

☐ Override Outside Class Hours:

Out of class Assignment

Student Assessment

STUDENT ASSESSMENT (Grades are based on): (Check as many boxes as are applicable. Note: For degree credit, AT LEAST ONE of the first four boxes must be checked. If "ESSAY" is not checked, please explain why here.)

Evaluation Method

Evaluation Method	ESSAY (Includes "blue book" exams and any written assignment of sufficient length and complexity to require students to select and organize ideas, to explain and support the ideas, and to demonstrate critical thinking skills.) COMPUTATION SKILLS NON-COMPUTATIONAL PROBLEM SOLVING (Critical thinking should be demonstrated by solving unfamiliar problems via various strategies.) SKILL DEMONSTRATION OTHER (Describe)

Other

Laboratory Notebook

Requisites

☑ This course has requisites.

Any requisites which are used in the Content Validation page must be removed before removing the requisite on this page.

Requisites

Requisite Type Recommended Preparation

Subject MATH

Requisite Course MATH 201-Elementary Algebra **Active

Non Course Requirement

Condition

☐ Sequential

☐ Adjunctive

Entry Skills (Legacy)

Requisite Type Recommended Preparation

Subject MATH

Requisite Course MATH 202-Geometry **Active

Non Course Requirement

Condition

- [ ] Sequential
- [ ] Adjunctive

Entry Skills (Legacy)

Content Validation

Requisites Status

- [x] This course has requisites (see the Requisites page to change this value).

If a Course Requisite is selected, you must provide a value for Content Validation.

Content Review

Texts, Readings, and Materials

Citation Formatting

Select Citation Style. APA

Textbook

Author	Title	Edition	ISBN	City	Publisher	Year of Publication	Rationale for Textbooks Older than 5 Years

Manual

Author	Title	Pub Date	Publisher

Periodical

Title	Author	Publication Name	Publication Date	Publisher

Software

Title	Edition	Publisher	Description

Other

Description

Library

- [ ] Print Materials
- [ ] Non-Print Materials
- [ ] Online Materials
- [ ] Services

Comments

Attached Files

Attached File

Codes/Dates

Date

UC Approval Year

UC Approval Term

CSU Approval Year

CSU Approval Term

IGETC Approval Year

IGETC Approval Term

CSU GE Approval Year

CSU GE Approval Term

Current Effective Date

Originator Park, Byung

Origination Date

CB00 State ID

Original State Approval

CB05 Course Transfer Status

CB10 Course COOP Work Exp-ED

CB11 California Classification Codes

CB13-Special Class Status

CB22 Non Credit Course Category

Comment

History

ASSIST

Queue for Assist

Last Request From Queue

Last Direct Request

ASSIST Preview

Prefix PHYS

Course Number 010L

Content

N/A

Lab Content

Unit 1. Motion and Forces (15%)

Unit 2. Energy and Momentum (15%)

Unit 3. Fluids, Heat, and Thermodynamics (15%)

Unit 4. Oscillations and Waves (15%)

Unit 5. Electricity and Magnetism (15%)

Unit 6. Optics (10%)

Unit 7. Quantum Mechanics and Modern Physics (15%)

Assignments

Course Description

Practical application of basic concepts and principles of physics: Motion, forces, gravity, matter, energy, momentum, rotation, oscillation, sound, heat, thermodynamics, electromagnetism, light, quantum physics, atoms, nuclei, and relativity. Not open for credit to students who have completed or are currently enrolled in PHYS 2A-2B, 3A-3B, or 4A-4B-4C.

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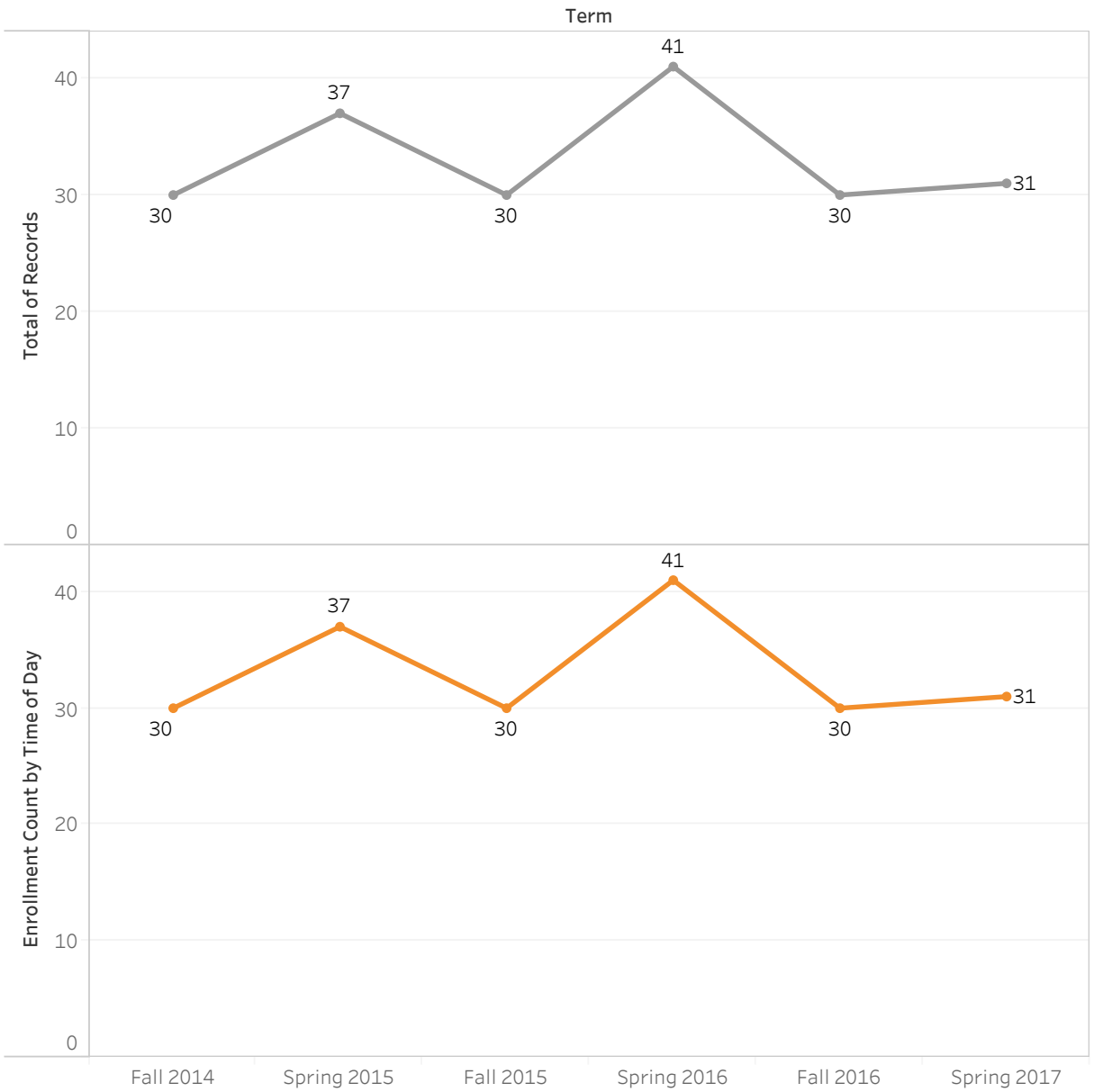
Campus	Semester	Instruction Mode	Subject	Catalog Number	Catalog Description
Alameda	Multiple values	All	PHYS	10	All



Ethnicity
All

Gender
All

Dsps
All

Low Income
All

Age Range
All

Foster Youth
All

Veteran
All

Time of Day
DAY

At-a-Glance - Participating Area Alignment

Show Outcomes Aligned with Institutional Learning Outcomes 2006-2009 (College of Alameda AMS)

Participating Area: PHYS 10 Introduction to Physics
Summary: 14 of 18 items addressed.
Selected Set: Institutional Learning Outcomes 2006-2009

Legend: Mapped Measure Added

PHYS 10 Introduction to Physics Outcome Set

	1. Foundation Skills				2. Personal Development and Management				3. Communication		4. Critical Thinking and Problem Solving		5. Creativity		6. Intercultural Literacy and Interaction			7. Responsibility
	a. Perform mathematical operations	**b. Read and write at the college level**	**c. Demonstrate information competency** - able to find, evaluate, use, communicate and appreciate information in all its various formats	**d. Demonstrate technological literacy**	**a. Develop self-awareness and confidence**	**b. Prepare for personal, educational and/or career goals**	**c. Promote, maintain and/or improve health**	**d. Appreciate the value of life-long learning**	**a. Perceive, understand, and engage in verbal and nonverbal** - communication.	**b. Listen, respond and adapt** - communication to cultures and social communities using the process of evaluation, reasoning, analysis, synthesis and relevant information to form positions, and make decisions	**a. Locate, analyze, evaluate and synthesize relevant** - information	**b. Draw reasonable conclusions** -and apply scientific principles in order to make decisions and solve problems in everyday life	**a. Creatively respond to ideas and information**	**b. Incorporate aesthetic reflection into life activities**	**a. Recognize and acknowledge individual and cultural** -diversity	**b. Practice respectful interpersonal** - and intercultural communication	**c. Recognize and understand the ideas** -and values expressed in cultural traditions throughout the world.	**a. Understand and demonstrate personal** -, civic, social and environmental responsibility and cooperation in order to become productive local and global citizens
Outcomes																		
Verbal reasoning **Students explain and discuss the concepts of physics, and apply them to everyday phenomena and interdisciplinary examples.**		Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added			Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added			Mapped Measure Added		Mapped Measure Added
Mathematical Reasoning **Students apply simple formulas to solve problems at an introductory level.**	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added			Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added				
Practical reasoning **Students explain and discuss physical principles underlying classroom demonstrations and/or at-home experiments involving everyday objects.**	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added			Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added				

Report:	Summary of the Assessment Cycle Results in : 2014-2015 Assessment Cycle: Assessment Plan and Assessment Findings
	Report Generated by Taskstream
Workspace:	COURSE ASSESSMENT
Assessment Plan Template:	COURSE ASSESSMENT
Report Generated:	Sunday, October 15, 2017

Organizational Area	Summary Results

Totals for the selected Participating Areas with access in
College of Alameda AMS
Full Course Listing

Overall Statistics

- **There are 4 Participating Areas with access to this requirement within Full Course Listing**
- **100% (12/12) outcomes were included**
- **100% (12/12) of outcomes included have at least one measure specified**
- **92% (11/12) of outcomes included have measures with findings specified**

13 Total Measures
(Includes measures that do not have findings)

11 Total Measures with Findings

Measure Type/Method

Student Artifact	4 (31%)
Exam	9 (69%)
Portfolio	0 (0%)
Other	0 (0%)
Total Direct	**13 (100%)**
Survey	0 (0%)
Focus Group	0 (0%)
Interview	0 (0%)
Other	0 (0%)
Total Indirect	**0 (0%)**
Unspecified	**0 (0%)**

Successful Performance Target Met?

Not Met	2 (18%)
Met	1 (9%)
Exceeded	8 (73%)
Unspecified	0 (0%)

Organizational Area	Summary Results
College of Alameda AMS » Full Course Listing **PHYS 10 Introduction to Physics**	**Overall Statistics** • **100%** (3/3) outcomes were included • **100%** (3/3) of outcomes included have at least one measure specified • **100%** (3/3) of outcomes included have measures with findings specified

3 Total Measures (Includes measures that do not have findings)	3 Total Measures with Findings

Measure Type/Method

Student Artifact	1 (33%)
Exam	2 (67%)
Portfolio	0 (0%)
Other	0 (0%)
Total Direct	**3 (100%)**
Survey	0 (0%)
Focus Group	0 (0%)
Interview	0 (0%)
Other	0 (0%)
Total Indirect	**0 (0%)**
Unspecified	**0 (0%)**

Successful Performance Target Met?

Not Met	0 (0%)
Met	1 (33%)
Exceeded	2 (67%)
Unspecified	0 (0%)

Organizational Area	Summary Results
College of Alameda AMS » Full Course Listing **PHYS 4A General Physics with Calculus**	**Overall Statistics** • **100%** (3/3) outcomes were included • **100%** (3/3) of outcomes included have at least one measure specified • **100%** (3/3) of outcomes included have measures with findings specified

4 Total Measures (Includes measures that do not have findings)	3 Total Measures with Findings

Measure Type/Method

Student Artifact	1 (25%)
Exam	3 (75%)
Portfolio	0 (0%)
Other	0 (0%)
Total Direct	**4 (100%)**
Survey	0 (0%)
Focus Group	0 (0%)
Interview	0 (0%)
Other	0 (0%)
Total Indirect	**0 (0%)**
Unspecified	**0 (0%)**

Successful Performance Target Met?

Not Met	0 (0%)
Met	0 (0%)
Exceeded	3 (100%)
Unspecified	0 (0%)

Organizational Area	Summary Results
College of Alameda AMS » Full Course Listing **PHYS 4B General Physics with Calculus**	**Overall Statistics** • **100%** (3/3) outcomes were included • **100%** (3/3) of outcomes included have at least one measure specified • **100%** (3/3) of outcomes included have measures with findings specified

3 Total Measures (Includes measures that do not have findings)	3 Total Measures with Findings

Measure Type/Method

Student Artifact	1 (33%)
Exam	2 (67%)
Portfolio	0 (0%)
Other	0 (0%)
Total Direct	**3 (100%)**
Survey	0 (0%)
Focus Group	0 (0%)
Interview	0 (0%)
Other	0 (0%)
Total Indirect	**0 (0%)**
Unspecified	**0 (0%)**

Successful Performance Target Met?

Not Met	2 (67%)
Met	0 (0%)
Exceeded	1 (33%)
Unspecified	0 (0%)

Organizational Area	Summary Results
College of Alameda AMS » Full Course Listing **PHYS 4C General Physics with Calculus**	**Overall Statistics** • **100%** (3/3) outcomes were included • **100%** (3/3) of outcomes included have at least one measure specified • **67%** (2/3) of outcomes included have measures with findings specified

3 Total Measures
(Includes measures that do not have findings)

Measure Type/Method

Student Artifact	1 (33%)
Exam	2 (67%)
Portfolio	0 (0%)
Other	0 (0%)
Total Direct	**3 (100%)**
Survey	0 (0%)
Focus Group	0 (0%)
Interview	0 (0%)
Other	0 (0%)
Total Indirect	**0 (0%)**
Unspecified	**0 (0%)**

2 Total Measures with Findings

Successful Performance Target Met?

Not Met	0 (0%)
Met	0 (0%)
Exceeded	2 (100%)
Unspecified	0 (0%)

Report:	Summary of the Assessment Cycle Results in : 2015-2016 Assessment Cycle: Assessment Plan and Assessment Findings
	Report Generated by Taskstream
Workspace:	COURSE ASSESSMENT
Assessment Plan Template:	COURSE ASSESSMENT
Report Generated:	Sunday, October 15, 2017

Organizational Area	Summary Results

Totals for the selected Participating Areas with access in
College of Alameda AMS
Full Course Listing

Overall Statistics

- **There are 4 Participating Areas with access to this requirement within Full Course Listing**
- **100% (9/9) outcomes were included**
- **100% (9/9) of outcomes included have at least one measure specified**
- **78% (7/9) of outcomes included have measures with findings specified**

10 Total Measures
(Includes measures that do not have findings)

7 Total Measures with Findings

Measure Type/Method

Student Artifact	3 (30%)
Exam	7 (70%)
Portfolio	0 (0%)
Other	0 (0%)
Total Direct	**10 (100%)**
Survey	0 (0%)
Focus Group	0 (0%)
Interview	0 (0%)
Other	0 (0%)
Total Indirect	**0 (0%)**
Unspecified	**0 (0%)**

Successful Performance Target Met?

Not Met	1 (14%)
Met	6 (86%)
Exceeded	0 (0%)
Unspecified	0 (0%)

Organizational Area	Summary Results
College of Alameda AMS » Full Course Listing **PHYS 10 Introduction to Physics**	**Overall Statistics** • **100%** (3/3) outcomes were included • **100%** (3/3) of outcomes included have at least one measure specified • **67%** (2/3) of outcomes included have measures with findings specified

3 Total Measures
(Includes measures that do not have findings)

2 Total Measures with Findings

Measure Type/Method

Student Artifact	1 (33%)
Exam	2 (67%)
Portfolio	0 (0%)
Other	0 (0%)
Total Direct	**3 (100%)**
Survey	0 (0%)
Focus Group	0 (0%)
Interview	0 (0%)
Other	0 (0%)
Total Indirect	**0 (0%)**
Unspecified	**0 (0%)**

Successful Performance Target Met?

Not Met	0 (0%)
Met	2 (100%)
Exceeded	0 (0%)
Unspecified	0 (0%)

Organizational Area	Summary Results
College of Alameda AMS » Full Course Listing **PHYS 4A General Physics with Calculus**	**Overall Statistics** • **100%** (3/3) outcomes were included • **100%** (3/3) of outcomes included have at least one measure specified • **100%** (3/3) of outcomes included have measures with findings specified

4 Total Measures
(Includes measures that do not have findings)

3 Total Measures with Findings

Measure Type/Method

Student Artifact	1 (25%)
Exam	3 (75%)
Portfolio	0 (0%)
Other	0 (0%)
Total Direct	**4 (100%)**
Survey	0 (0%)
Focus Group	0 (0%)
Interview	0 (0%)
Other	0 (0%)
Total Indirect	**0 (0%)**
Unspecified	**0 (0%)**

Successful Performance Target Met?

Not Met	0 (0%)
Met	3 (100%)
Exceeded	0 (0%)
Unspecified	0 (0%)

Organizational Area	Summary Results
College of Alameda AMS » Full Course Listing **PHYS 4B General Physics with Calculus**	**Overall Statistics** • **100%** (3/3) outcomes were included • **100%** (3/3) of outcomes included have at least one measure specified • **67%** (2/3) of outcomes included have measures with findings specified 3 Total Measures (Includes measures that do not have findings) 2 Total Measures with Findings **Measure Type/Method** Student Artifact 1 (33%) Exam 2 (67%) Portfolio 0 (0%) Other 0 (0%) **Total Direct 3 (100%)** Survey 0 (0%) Focus Group 0 (0%) Interview 0 (0%) Other 0 (0%) **Total Indirect 0 (0%)** **Unspecified 0 (0%)** **Successful Performance Target Met?** Not Met 1 (50%) Met 1 (50%) Exceeded 0 (0%) Unspecified 0 (0%)
College of Alameda AMS » Full Course Listing **PHYS 4C General Physics with Calculus**	*No Outcomes have been included* *No Measures have been specified* *No Findings have been specified*

At-a-Glance - Status Report

COURSE ASSESSMENT

Legend: In Progress (Not Shared) Shared (Not Reviewed) Reviewed

Organizational Area	2015-2016 Assessment Cycle
	Status Report
College of Alameda AMS	
Full Course Listing	
PHYS 10 Introduction to Physics	*No Access*
PHYS 4A General Physics with Calculus	*No Access*
PHYS 4B General Physics with Calculus	*No Access*
PHYS 4C General Physics with Calculus	*No Access*
SUMMARY:	0 In Progress 0 Shared 0 Reviewed **0 Total**

Report:	Summary of the Assessment Cycle Results in : 2016-2017 Assessment Cycle: Assessment Plan and Assessment Findings
	Report Generated by Taskstream
Workspace:	COURSE ASSESSMENT
Assessment Plan Template:	COURSE ASSESSMENT
Report Generated:	Sunday, October 15, 2017

Organizational Area	Summary Results
Totals for the selected Participating Areas with access in College of Alameda AMS **Full Course Listing**	**Overall Statistics** • **There are 4 Participating Areas with access to this requirement within Full Course Listing** • **100% (12/12) outcomes were included** • **100% (12/12) of outcomes included have at least one measure specified** • **100% (12/12) of outcomes included have measures with findings specified**

12 Total Measures
(Includes measures that do not have findings)

12 Total Measures with Findings

Measure Type/Method

Student Artifact	4 (33%)
Exam	8 (67%)
Portfolio	0 (0%)
Other	0 (0%)
Total Direct	**12 (100%)**
Survey	0 (0%)
Focus Group	0 (0%)
Interview	0 (0%)
Other	0 (0%)
Total Indirect	**0 (0%)**
Unspecified	**0 (0%)**

Successful Performance Target Met?

Not Met	0 (0%)
Met	12 (100%)
Exceeded	0 (0%)
Unspecified	0 (0%)

Organizational Area	Summary Results
College of Alameda AMS » Full Course Listing **PHYS 10 Introduction to Physics**	**Overall Statistics** • **100%** (3/3) outcomes were included • **100%** (3/3) of outcomes included have at least one measure specified • **100%** (3/3) of outcomes included have measures with findings specified

3 Total Measures
(Includes measures that do not have findings)

Measure Type/Method

Student Artifact	1 (33%)
Exam	2 (67%)
Portfolio	0 (0%)
Other	0 (0%)
Total Direct	**3 (100%)**
Survey	0 (0%)
Focus Group	0 (0%)
Interview	0 (0%)
Other	0 (0%)
Total Indirect	**0 (0%)**
Unspecified	**0 (0%)**

3 Total Measures with Findings

Successful Performance Target Met?

Not Met	0 (0%)
Met	3 (100%)
Exceeded	0 (0%)
Unspecified	0 (0%)

Organizational Area	Summary Results
College of Alameda AMS » Full Course Listing **PHYS 4A General Physics with Calculus**	**Overall Statistics** • **100%** (3/3) outcomes were included • **100%** (3/3) of outcomes included have at least one measure specified • **100%** (3/3) of outcomes included have measures with findings specified

3 Total Measures (Includes measures that do not have findings)	3 Total Measures with Findings

Measure Type/Method

Student Artifact	1 (33%)
Exam	2 (67%)
Portfolio	0 (0%)
Other	0 (0%)
Total Direct	**3 (100%)**
Survey	0 (0%)
Focus Group	0 (0%)
Interview	0 (0%)
Other	0 (0%)
Total Indirect	**0 (0%)**
Unspecified	**0 (0%)**

Successful Performance Target Met?

Not Met	0 (0%)
Met	3 (100%)
Exceeded	0 (0%)
Unspecified	0 (0%)

Organizational Area	Summary Results
College of Alameda AMS » Full Course Listing **PHYS 4B General Physics with Calculus**	**Overall Statistics** • **100%** (3/3) outcomes were included • **100%** (3/3) of outcomes included have at least one measure specified • **100%** (3/3) of outcomes included have measures with findings specified

3 Total Measures
(Includes measures that do not have findings)

Measure Type/Method

Student Artifact	1 (33%)
Exam	2 (67%)
Portfolio	0 (0%)
Other	0 (0%)
Total Direct	**3 (100%)**
Survey	0 (0%)
Focus Group	0 (0%)
Interview	0 (0%)
Other	0 (0%)
Total Indirect	**0 (0%)**
Unspecified	**0 (0%)**

3 Total Measures with Findings

Successful Performance Target Met?

Not Met	0 (0%)
Met	3 (100%)
Exceeded	0 (0%)
Unspecified	0 (0%)

Organizational Area	Summary Results
College of Alameda AMS » Full Course Listing **PHYS 4C General Physics with Calculus**	**Overall Statistics** • **100%** (3/3) outcomes were included • **100%** (3/3) of outcomes included have at least one measure specified • **100%** (3/3) of outcomes included have measures with findings specified

3 Total Measures
(Includes measures that do not have findings)

Measure Type/Method

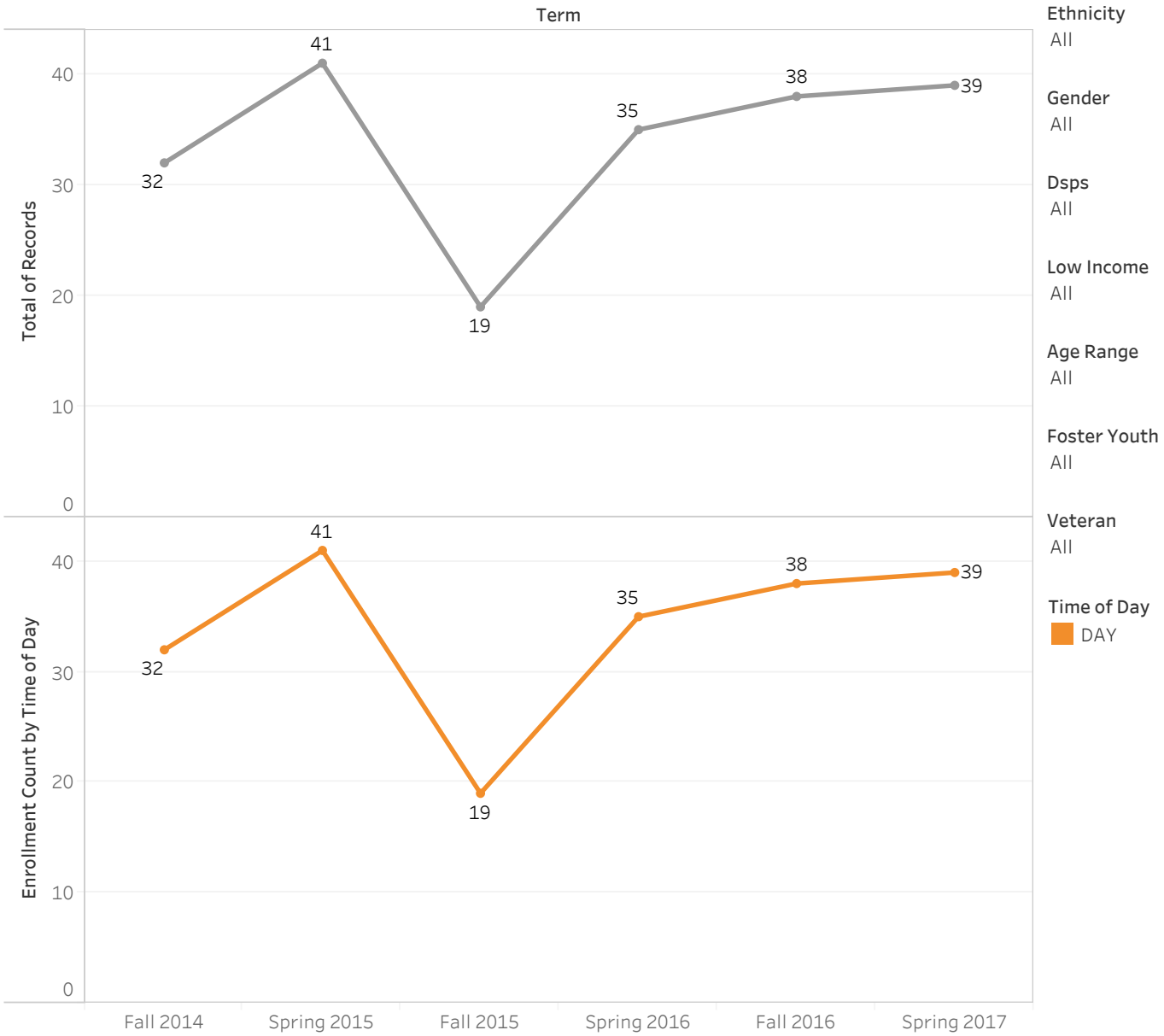
Student Artifact	1 (33%)
Exam	2 (67%)
Portfolio	0 (0%)
Other	0 (0%)
Total Direct	**3 (100%)**
Survey	0 (0%)
Focus Group	0 (0%)
Interview	0 (0%)
Other	0 (0%)
Total Indirect	**0 (0%)**
Unspecified	**0 (0%)**

3 Total Measures with Findings

Successful Performance Target Met?

Not Met	0 (0%)
Met	3 (100%)
Exceeded	0 (0%)
Unspecified	0 (0%)

Campus	Semester	Instruction Mode	Subject	Catalog Number	Catalog Description
Alameda	Multiple values	All	PHYS	4A	All



At-a-Glance - Participating Area Alignment

Show Outcomes Aligned with Institutional Learning Outcomes 2006-2009 (College of Alameda AMS)

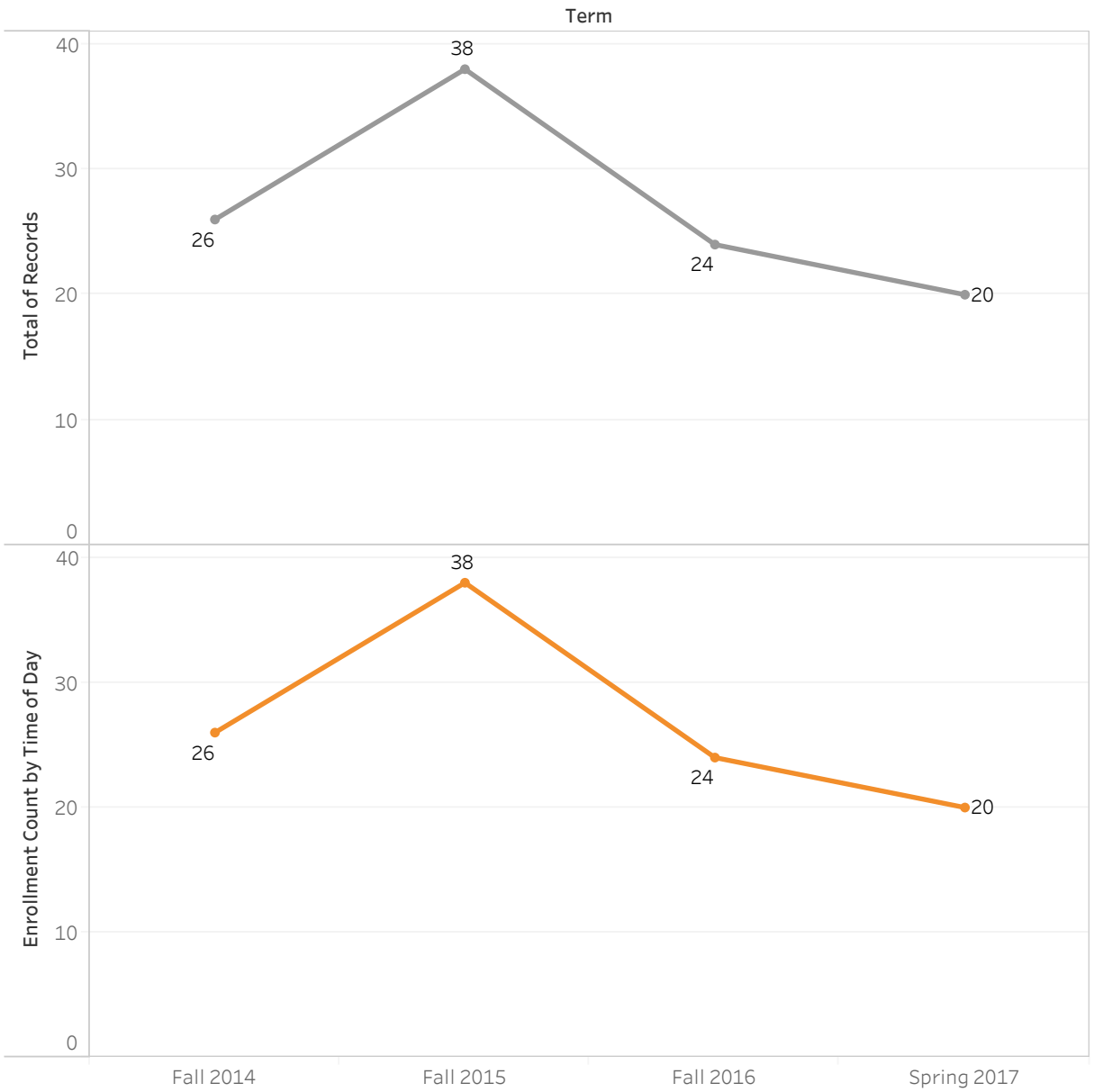
Participating Area: PHYS 4A General Physics with Calculus
Summary: 16 of 18 items addressed.
Selected Set: Institutional Learning Outcomes 2006-2009

Legend: Mapped Measure Added

PHYS 4A General Physics with Calculus Outcome Set

	1. Foundation Skills				2. Personal Development and Management				3. Communication		4. Critical Thinking and Problem Solving		5. Creativity		6. Intercultural Literacy and Interaction			7. Responsibility
	a. Perform mathematical operations	**b. Read and write at the college level**	**c. Demonstrate information competency** - able to find, evaluate, use, communicate and appreciate information in all its various formats	**d. Demonstrate technological literacy**	**a. Develop self-awareness and confidence**	**b. Prepare for personal, educational and/or career goals**	**c. Promote, maintain and/or improve health**	**d. Appreciate the value of life-long learning**	**a. Perceive, understand, and engage in verbal and nonverbal** - communication.	**b. Listen, respond and adapt** - communication to cultures and social communities using the process of evaluation, reasoning, analysis, synthesis and relevant information to form positions, and make decisions	**a. Locate, analyze, evaluate and synthesize relevant** - information	**b. Draw reasonable conclusions** -and apply scientific principles in order to make decisions and solve problems in everyday life	**a. Creatively respond to ideas and information**	**b. Incorporate aesthetic reflection into life activities**	**a. Recognize and acknowledge individual and cultural** -diversity	**b. Practice respectful interpersonal** - and intercultural communication	**c. Recognize and understand the ideas** -and values expressed in cultural traditions throughout the world.	**a. Understand and demonstrate personal** -, civic, social and environmental responsibility and cooperation in order to become productive local and global citizens
Outcomes																		
Outcome 1 Conceptual Students discuss the concepts of physics, and apply them to situations relevant to the course.		● ✎	● ✎	● ✎	● ✎	● ✎			● ✎	● ✎	● ✎	● ✎	● ✎			● ✎		
Outcome 2 Problem Solving Students develop descriptions of physical systems using mathematics and calculate measurable quantities.	● ✎	● ✎	● ✎	● ✎	● ✎	● ✎			● ✎	● ✎	● ✎	● ✎	● ✎					
Outcome 3 Laboratory Students set up laboratory equipment safely, plan and carry out experimental procedures, identify possible sources of error, reduce and interpret data, and prepare clear written reports.	● ✎	● ✎	● ✎	● ✎	● ✎	● ✎			● ✎	● ✎	● ✎	● ✎	● ✎	● ✎	● ✎	● ✎	● ✎	● ✎

Campus	Semester	Instruction Mode	Subject	Catalog Number	Catalog Description
Alameda	Multiple values	All	PHYS	4B	All



Ethnicity
All

Gender
All

Dsps
All

Low Income
All

Age Range
All

Foster Youth
All

Veteran
All

Time of Day
DAY

At-a-Glance - Participating Area Alignment

Show Outcomes Aligned with Institutional Learning Outcomes 2006-2009 (College of Alameda AMS)

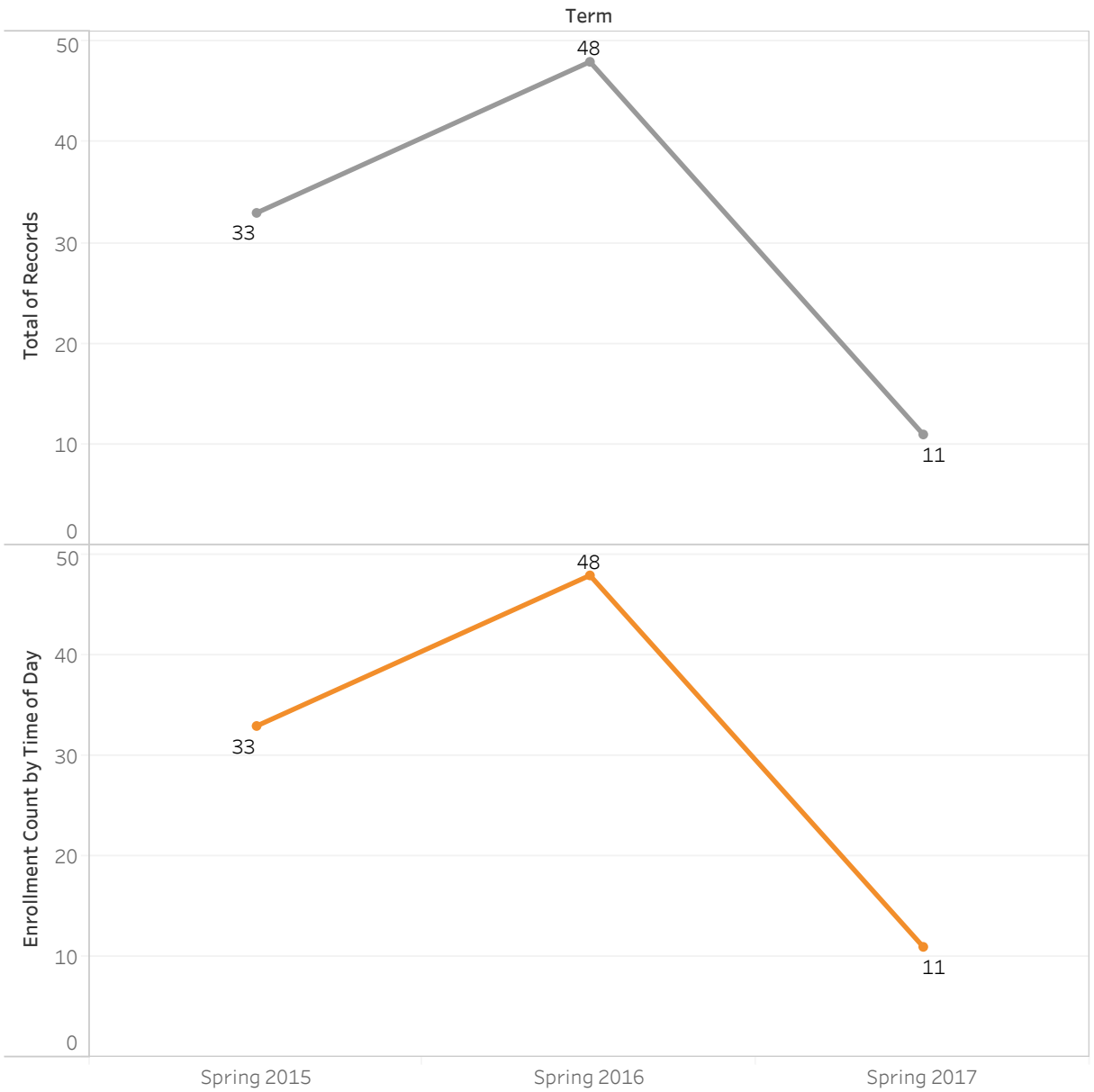
Participating Area: PHYS 4B General Physics with Calculus
Summary: 16 of 18 items addressed.
Selected Set: Institutional Learning Outcomes 2006-2009

Legend: Mapped Measure Added

PHYS 4B General Physics with Calculus Outcome Set

	1. Foundation Skills				2. Personal Development and Management				3. Communication		4. Critical Thinking and Problem Solving		5. Creativity		6. Intercultural Literacy and Interaction			7. Responsibility
	a. Perform mathematical operations	**b. Read and write at the college level**	**c. Demonstrate information competency** - able to find, evaluate, use, communicate and appreciate information in all its various formats	**d. Demonstrate technological literacy**	**a. Develop self-awareness and confidence**	**b. Prepare for personal, educational and/or career goals**	**c. Promote, maintain and/or improve health**	**d. Appreciate the value of life-long learning**	**a. Perceive, understand, and engage in verbal and nonverbal** - communication.	**b. Listen, respond and adapt** - communication to cultures and social communities using the process of evaluation, reasoning, analysis, synthesis and relevant information to form positions, and make decisions	**a. Locate, analyze, evaluate and synthesize relevant** - information	**b. Draw reasonable conclusions** -and apply scientific principles in order to make decisions and solve problems in everyday life	**a. Creatively respond to ideas and information**	**b. Incorporate aesthetic reflection into life activities**	**a. Recognize and acknowledge individual and cultural** -diversity	**b. Practice respectful interpersonal** - and intercultural communication	**c. Recognize and understand the ideas** -and values expressed in cultural traditions throughout the world.	**a. Understand and demonstrate personal** -, civic, social and environmental responsibility and cooperation in order to become productive local and global citizens
Outcomes																		
Conceptual **Students discuss the concepts of physics, and apply them to situations relevant to the course.**		Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added			Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added			Mapped Measure Added		
Problem Solving **Students develop descriptions of physical systems using mathematics and calculate measurable quantities.**	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added			Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added				
Laboratory **Students set up laboratory equipment safely, plan and carry out experimental procedures, identify possible sources of error, reduce and interpret data, and prepare clear written reports.**	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added			Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added	Mapped Measure Added

Campus	Semester	Instruction Mode	Subject	Catalog Number	Catalog Description
Alameda	Multiple values	All	PHYS	4C	All



Ethnicity
All

Gender
All

Dsps
All

Low Income
All

Age Range
All

Foster Youth
All

Veteran
All

Time of Day
DAY

At-a-Glance - Participating Area Alignment

Show Outcomes Aligned with Institutional Learning Outcomes 2006-2009 (College of Alameda AMS)

Participating Area: PHYS 4C General Physics with Calculus
Summary: 16 of 18 items addressed.
Selected Set: Institutional Learning Outcomes 2006-2009

Legend: Mapped Measure Added

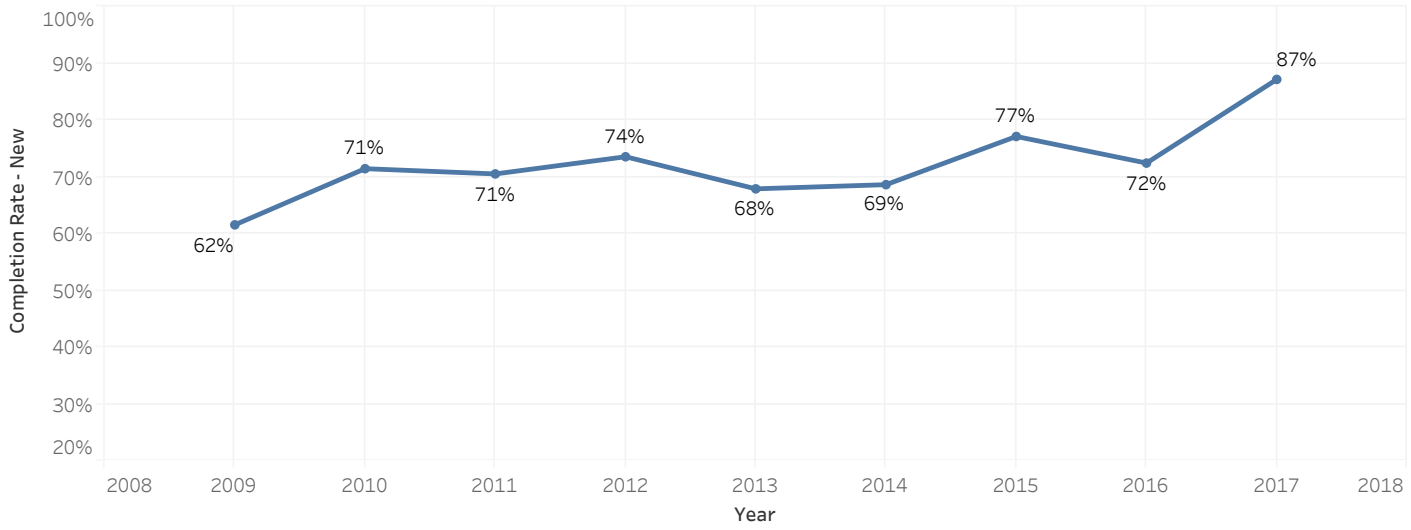
PHYS 4C General Physics with Calculus Outcome Set

	1. Foundation Skills				2. Personal Development and Management				3. Communication		4. Critical Thinking and Problem Solving		5. Creativity		6. Intercultural Literacy and Interaction			7. Responsibility
	a. Perform mathematical operations	**b. Read and write at the college level**	**c. Demonstrate information competency** - able to find, evaluate, use, communicate and appreciate information in all its various formats	**d. Demonstrate technological literacy**	**a. Develop self-awareness and confidence**	**b. Prepare for personal, educational and/or career goals**	**c. Promote, maintain and/or improve health**	**d. Appreciate the value of life-long learning**	**a. Perceive, understand, and engage in verbal and nonverbal** - communication.	**b. Listen, respond and adapt** - communication to cultures and social communities using the process of evaluation, reasoning, analysis, synthesis and relevant information to form positions, and make decisions	**a. Locate, analyze, evaluate and synthesize relevant** - information	**b. Draw reasonable conclusions** -and apply scientific principles in order to make decisions and solve problems in everyday life	**a. Creatively respond to ideas and information**	**b. Incorporate aesthetic reflection into life activities**	**a. Recognize and acknowledge individual and cultural** -diversity	**b. Practice respectful interpersonal** - and intercultural communication	**c. Recognize and understand the ideas** -and values expressed in cultural traditions throughout the world.	**a. Understand and demonstrate personal** -, civic, social and environmental responsibility and cooperation in order to become productive local and global citizens
Outcomes																		
Conceptual **Students discuss the concepts of physics, and apply them to situations relevant to the course.**		✓	✓	✓	✓	✓			✓	✓	✓	✓	✓			✓		
Problem Solving **Students develop descriptions of physical systems using mathematics and calculate measurable quantities.**	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓				
Laboratory **Students set up laboratory equipment safely, plan and carry out experimental procedures, identify possible sources of error, reduce and interpret data, and prepare clear written reports.**	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Group 1	Campus	Semester	Department	Catalog Description	Catalog Number	Distance Education
	College of Alameda	All	PHYS	All	All	Null

Age Range	Gender	Ethnicity	Dsps	Low Income	Veteran	Foster Youth
All	All	All	All	All	All	All

Completion Comparison - Group 1



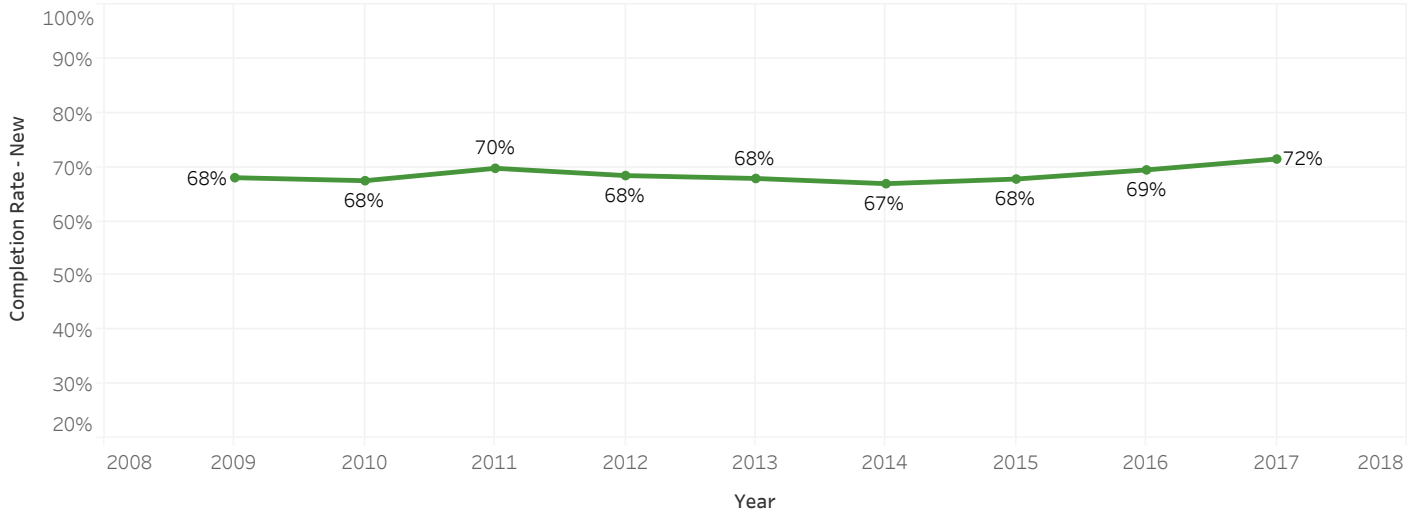
Year

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Completion Rate - New	62%	71%	71%	74%	68%	69%	77%	72%	87%
Success Count	16.0	80.0	98.0	125.0	112.0	94.0	101.0	105.0	61.0
Total Graded	26.0	112.0	139.0	170.0	165.0	137.0	131.0	145.0	70.0

Group 2	Campus	Semester	Department	Catalog Description	Catalog Number	Distance Education
	College of Alameda	All	All	All	All	All

Age Range	Gender	Ethnicity	Dsps	Low Income	Veteran	Foster Youth
All	All	All	All	All	All	All

Completion Comparison - Group 2



Year

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Completion Rate - New	68%	68%	70%	68%	68%	67%	68%	69%	72%
Success Count	13,357	20,408	20,666	18,714	20,340	19,325	19,111	19,220	8,355
Total Graded	19,625	30,231	29,610	27,339	29,948	28,862	28,182	27,655	11,684

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College of Alameda Strategic Goals - Education Master Plan of 2016-2021

Reduce loss of students prior to start of classes

Increase community and educational partnerships

Advance CoA teaching and learning

Increase access to college programs/coursework through collaboration with other PCCD colleges in redes

Increase retention and persistence rates

Strengthen business and industry partnerships

Strengthen Data-driven / informed decision making

Establish integrated planning and evaluation system

Design organizational, committee, & governance structures to support student success

Engage in redesign of PCCD policies and procedures, including the Budget Allocation Model

signing college schedules & offerings