Section A - Enrollment and Demographics

Examine the enrollment and demographic data in Section A of the datasheet.

1. Is your program's enrollment increasing, decreasing, or remaining constant?
   Increasing

2. Describe the reason(s) for the trend in your program's enrollment (600 characters max).

   It is believed that the 8% increase observed over the last two years is primarily due to a combination of two factors. These include: a) an increase in the enrollment caps for PHYS V01 and PHYS V04; and b) an increase in Engineering Program enrollment.
   The cap in PHYS V01 was raised from 50 to 75 while the cap for PHYS V04/L was raised from 40 to 50. These changes allow for an increase of up to 70 students per year in the program. PHYS V01 is a prerequisite entry point for many students who claim ENGR as a major while the others take PHYS V04/L as their first course.

3. Are the demographics of students in your program similar to those of the College, as a whole?
   No

4. If no, please describe why they differ (600 characters max).

   The ethnicity demographics are very similar to those of the college overall. However, females are significantly underrepresented in the program at a level of only 28% when compared to the college's 55%. This is consistent with the current proportion of women holding STEM related jobs at approximately 30% of the workforce (2013 NSF.gov).

5. Are you able to increase your program's enrollment and/or enroll more students from underrepresented groups?
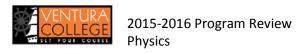   Yes

   If yes, please create an initiative in Section H that describes how your program will do this, and what resources, if any, are necessary to achieve it.

6. If no, please describe why your program is unable to do this. (600 characters max).

> N/A

Section B - Course Success Rate

Examine your program's course success rate data in Section B of the datasheet. To satisfy an accreditation requirement, the College has set a standard of 66.7% for the course success rate that all programs are expected to meet.

1. Was your program's course success rate in 2014 higher than the college standard of 66.7%?
    Yes
2. Was your program's course success rate in 2014 higher than the overall college success rate?
    Yes
3. Is your program's course success rate increasing, decreasing, or remaining constant?
    Increasing
4. Are there gaps between demographic groups (ethnicity, gender) in your program's course success rate?
    No
5. Briefly describe the reason(s) for the trend in your program's course success rate, and for any gaps between demographic groups (600 characters max).

> The program success rate appears to have increased slightly (3.5%) over the last four years which is comparable to the overall trend for the college. There are no persistent gaps from year to year between demographic groups that are significantly different than those for the college overall.

6. Are you able to increase your program's course success rate and/or close gaps between demographic groups?
    No

    If yes, please create an initiative in Section H that describes how your program will do this, and what resources, if any, are necessary to achieve it.

7. If no, why not? (600 characters max)

> At this time there are no persistent gaps from year to year between demographic groups that are significantly different than those for the college overall. Other more feasible initiatives proposed in this program review may result in collateral changes in success rate so no separate initiative dedicated to success rate are proposed at this time. Any observed gaps could become the subject of an initiative in the future, but will not be addressed directly this year. Other initiatives in this program review may result in changes

Section C - Productivity

Examine your program's productivity data in Section C of the datasheet. The college has set an overall productivity standard of 525.

1. Was your program's productivity in 2014 higher, lower, or equal to the overall college standard of 525?
   Higher
2. Is your program's productivity increasing, decreasing, or remaining constant?
   Increasing
3. Is your program's course fill rate increasing, decreasing, or remaining constant?
   Increasing
4. Briefly describe the reasons for the trends in your program's productivity and course fill rate (600 characters max).

> Increases in productivity have likely come from: a) an increase in the enrollment caps for PHYS V01 and PHYS V04; and b) an increase in Engineering Program enrollment which requires completion of a three semester physics sequence.

5. Are you able to increase your productivity and/or course fill rate?
   Yes

   If yes, please create an initiative in Section H that describes how your program will do this, and what resources, if any, are necessary to achieve it.
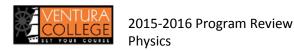
6. If no, why not? (600 characters max)

> N/A

Section D - Degrees and Certificates Awarded

1. Does your program offer a degree or certificate of achievement?
   No

   If yes, please examine the degree and certificate data on Section D of the datasheet and answer the questions below. If no, skip to Section E.

   To satisfy an accreditation requirement, the college has set a standard to award a minimum of 1,178 degrees and certificates each year.

2. Briefly describe the trend in the number of degrees and certificates that your program has awarded over the last five years (600 characters max).

> N/A

   Programs that have awarded fewer than 15 degrees and certificates over the past five years may be placed on possible discontinuance.

3. Has your program awarded fewer than 15 total degrees and certificates over the past five years?
   - Select -

4. If yes, please describe the reason(s) why your program has awarded fewer than 15 total degrees and certificates (600 characters max). Also please create an initiative in Section H that describes how your program will increase the number of degrees/certificates awarded, and what resources, if any, are necessary to achieve it.

N/A

5. Are there gaps between demographic groups (ethnicity, gender) in your program's awarding of degrees and certificates?
- Select -

6. If yes, please describe the reasons for any gaps between demographic groups (600 characters max).

N/A

7. Are you able to increase the number of degrees/certificates that your program awards each year and/or close any gaps between demographic groups?
Yes

If yes, please create an initiative in Section H that describes how your program will do this, and what resources, if any, are necessary to achieve it.

8. If no, why not? (600 characters max)

Section E - Student Learning Outcomes

1. Are there any courses your program offers that have never been assessed?
   Yes

2. If yes, why haven't they been assessed? (600 characters max)

PHSC V01 has not been offered since the spring of 2012. It has been revised and launched in Curricunet and will be submitted for C-ID approval. The course may be offered again as soon as the spring 2017 semester.

3. What percentage of your program's courses have assessed at least half of their SLO's?
   81%

4. Have you made any changes to courses based on the results of SLO assessment?
   Yes

5. If yes, briefly describe the changes were made and the impact they had on student learning. (600 characters max).

Increased the complexity of content being assessed in PHYS V01: The impact upon learning is being assessed through the end of fall 2015. Replaced commercially published textbook with free, open-source e-book in PHYS V02A and V02B: The impact upon learning is being assessed and will continue through spring 2016. Use of publisher managed online homework assignment and assessment tools has been suspended in favor or more weight on quizzes and exams. This may resolve a potential equity issue for some. Increased classroom participation has been measured through attendance and clicker use.

6. How many courses have assessed SLO's, implemented a change, and then re-assessed the SLO's (i.e. "closed the loop")?
   5 Courses

7. How closely have you adhered to your SLO rotational plan?
   Mostly

8. Did anything impede your ability to adhere to your SLO rotational plan? (600 characters max)

   Eight courses (PHYS V02A, V02AL, V02B, V02BL, V03A, V03AL, V03B, V03BL) that were previously offered every year were rescheduled for every other year based upon demand. Consequently four of the courses will not be assessed this academic year (PHYS V03A, V03AL, V03B, V03BL), nor their prior initiatives executed.

9. How does your program facilitate the achievement of the college's institutional learning outcomes? (600 characters max)

   All physics courses strongly support "Scientific and Quantitative Reasoning" (ISLO-2) and "Critical Thinking and Problem Solving" (ISLO-3). In physics lecture classes students develop multiple skills needed to solve classic and novel scientific problems analytically. In laboratory classes they design and conduct experiments to collect data which is then analyzed and interpreted according to current scientific models. Critical thinking and problem solving are an integral part of nearly every activity in both lecture and laboratory classes.

10. How many department/program meetings have you held in the previous year in which SLO's have been discussed?
    6

11. Are you able to improve the student learning outcomes for your program (i.e. number of SLO's assessed, adherence to rotational plan, student SLO attainment, etc.)?
    Yes

    If yes, please create an initiative in Section H that describes how your program will do this, and what resources, if any, are necessary to achieve it.

12. If no, why not? (600 characters max)

N/A

Section F - Budget

1. Have there been any significant changes in your program's budget over the past 3 years?
No

2. How have these changes impacted student learning? (600 characters max)

An increasing number of lab experiments must be performed without adequate equipment sets. This requires that lab groups be split up and students sent to other groups where they will not fully engage in hands-on learning. There is no equipment budget in the General Fund for the maintenance of the more than 500 items having an estimated value of well over $100,000. A minimum annual equipment budget of $2000 is needed to maintain the physics equipment inventory in a way that will sustain an interactive and relevant laboratory learning experience for students.

Section G - Previous Year Initiatives

Program	Funding Category	Initiative ID	Initiative Title	Initiative Description	Cost	Grants/ Categorical	College Funds	Program Priority	Division Priority	Committee Priority	College Priority	Funded	Status	Outcome
Physics	Equipment	PHYS1501	Replacement Equipment	Increase department budget by $2k to keep pace with replacement costs of lab equipment.	2,000		2,000	H	H	H	H	No	Pending	
Physics	Equipment	PHYS1504	Pasco 850 Data Collection Interface upgrade	The current 750 model is an older design and is being phased out by Pasco. Approx. 50% of users have upgraded to the 850.	20,000		20,000	M	M	M	M	No	Pending	
Physics	Equipment	PHYS1505	Diode lasers for optics laboratory	Purchase ten modulated diode lasers to leverage existing optics equipment and facilities for state of the art optics lab experience.	3,390		3,390	L	L	L	L	No	Pending	

Physics	Equipment	PHYS1506	3-D Printer to create custom equipment for experiments	3-D Printer to share with Engineering for manufacturing student design projects and novel lab equipment.	3,129		3,129	L	L	L	L	No	Pending	
Physics	General Fund	PHYS1503	Student Research Experience	Purchase two spectroradiometers through CSU CI ACCESO grant to support student research.	6,226		6,226	M	M	M	M	N/A	Ongoing	

Section H – 2015-2016 Initiatives

Program	Initiative ID	Initiative Title	Initiative Description	Cost	Funding Source	Initiative Category	Educational Master Plan Goal	Expected Improvement	Program Priority	Division Priority	Committee Priority	College Priority
Physics	PHYS1601	Female Enrollment in STEM	Initial stage to survey/interview female students about their interest, preparation and/or involvement in STEM.	0	None	Other	☒Goal 1 ☐Goal 2 ☐Goal 3 ☐Goal 4 ☐Goal 5	☒Enrollment ☒# Under-represented students ☐Course Success Rate ☐Productivity/ Fill Rate ☐Degrees/ Certificates ☐Close equity gaps	☐Req ☐High ☐Med ☒Low	☐Req ☐High ☐Med ☐Low	☐Req ☐High ☐Med ☐Low	☐Req ☐High ☐Med ☐Low
Physics	PHYS1602	PHYS V02 and V03 schedules	Gen Physics sequences to be offered in alternate years to increase productivity and fill rates: PHYS V02A, V02AL, V02B, V02BL and PHYS V03A, V03AL, V03B, V03BL.	0	None	Other	☒Goal 1 ☐Goal 2 ☐Goal 3 ☐Goal 4 ☐Goal 5	☐Enrollment ☐# Under-represented students ☐Course Success Rate ☒Productivity/ Fill Rate ☐Degrees/ Certificates ☐Close equity gaps	☐Req ☐High ☒Med ☐Low	☐Req ☐High ☐Med ☐Low	☐Req ☐High ☐Med ☐Low	☐Req ☐High ☐Med ☐Low

Program	Initiative ID	Initiative Title	Initiative Description	Cost	Funding Source	Initiative Category	Educational Master Plan Goal	Expected Improvement	Program Priority	Division Priority	Committee Priority	College Priority
Physics	PHYS1603	Physics ADT	Create Physics ADT	0	None	Other	☒Goal 1 ☐Goal 2 ☐Goal 3 ☐Goal 4 ☐Goal 5	☐Enrollment ☐# Under-represented students ☐Course Success Rate ☐Productivity/ Fill Rate ☒Degrees/ Certificates ☐Close equity gaps	☐Req ☒High ☐Med ☐Low	☐Req ☐High ☐Med ☐Low	☐Req ☐High ☐Med ☐Low	☐Req ☐High ☐Med ☐Low
Physics	PHYS1604	Function generator replacement	Replace outdated function generators for electronics labs in physics and engineering.	4169	College Funds	Equipment	☒Goal 1 ☐Goal 2 ☐Goal 3 ☐Goal 4 ☐Goal 5	☐Enrollment ☐# Under-represented students ☒Course Success Rate ☐Productivity/ Fill Rate ☐Degrees/ Certificates ☐Close equity gaps	☐Req ☐High ☒Med ☐Low	☐Req ☐High ☐Med ☐Low	☐Req ☐High ☐Med ☐Low	☐Req ☐High ☐Med ☐Low

Program	Initiative ID	Initiative Title	Initiative Description	Cost	Funding Source	Initiative Category	Educational Master Plan Goal	Expected Improvement	Program Priority	Division Priority	Committee Priority	College Priority
Physics	PHYS1605	SLO Review	Review current SLOs and assessments to evaluate their effectiveness in revealing significant opportunities for program performance improvement.	0	None	Other	☒Goal 1 ☐Goal 2 ☐Goal 3 ☐Goal 4 ☐Goal 5	☐Enrollment ☐# Under-represented students ☒Course Success Rate ☐Productivity/ Fill Rate ☐Degrees/ Certificates ☐Close equity gaps	☐Req ☐High ☒Med ☐Low	☐Req ☐High ☐Med ☐Low	☐Req ☐High ☐Med ☐Low	☐Req ☐High ☐Med ☐Low
					- Select -	- Select -	☐Goal 1 ☐Goal 2 ☐Goal 3 ☐Goal 4 ☐Goal 5	☐Enrollment ☐# Under-represented students ☐Course Success Rate ☐Productivity/ Fill Rate ☐Degrees/ Certificates ☐Close equity gaps	☐Req ☐High ☐Med ☐Low	☐Req ☐High ☐Med ☐Low	☐Req ☐High ☐Med ☐Low	☐Req ☐High ☐Med ☐Low

Educational Master Plan Goals

Goal 1: Continuously improve educational programs and services to meet student, community, and workforce development needs.

Goal 2: Provide students with information and access to diverse and comprehensive support services that lead to their success.

Goal 3: Partner with local and regional organizations to achieve mutual goals and strengthen the College, the community and the area's economic vitality.

Goal 4: Continuously enhance institutional operations and effectiveness.

Goal 5: Implement the Ventura College East Campus Educational Plan.

Section I – Process Assessment

How have the changes in the program review process this year worked for your area?

The availability of the Program Review Datasheets and graphs has been very helpful to quickly identify the general performance of programs. The program review Word document template was also helpful because it provided tighter guidelines and limits the scope of responses.

How would you improve the program review process based on this experience?

It would be helpful if the same set of datasheets that were provided for the program, were also provided for each course in the program. Course level performance must of course be disaggregated from the overall program data in order to identify specific areas of opportunity that are otherwise hidden. The Word document template asks for "yes" or "no" responses in many sections related to whether or not some aspect of a program can be improved, such as enrollment. If the response is "yes" then it asks that an initiative be created in section H. For most programs, it will always be "possible" to try to improve the metric for every category, but it is not always appropriate or feasible. For example if a program has already demonstrated significant enrollment growth, it will be possible to try to increase enrollment still more by the creation of a new initiative, but it may not be appropriate if success rates are low. Just because an initiative could be created, does not mean that it should be, especially if it draws limited resources away from other higher-priority initiatives that promise greater benefits. Perhaps the template could include an option for rating the current feasibility of an initiative or perhaps for it to be reconsidered at a later date.

Appeals

After the program review process is complete, your program has the right to appeal the ranking of initiatives (i.e. initiatives that should have been ranked high but were not, initiatives that were ranked high but should not have been), the division's decision to support/not support program discontinuance, or the process (either within the department/program or the division) itself.

If you choose to appeal, please complete the Appeals form (Appendix E) that explains and supports your position. Forms are located at the Program Review VC website.

The appeal will be handled at the next higher level of the program review process.

Section I – Submission Verification

Preparer: Jeffrey Wood

Dates met (include email discussions): 9/18/2015, 10/7/2015, 10/14/2015

List of Faculty who participated in the program Review Process:
Michelle Millea, Hugh O'Neill, George Warren

Preparer Verification:

☒ I verify that this program document was completed in accordance with the program review process.

Dean Verification:

☐ I verify that I have reviewed this program review document and find it complete. *The dean may also provide comments (optional):*

APPEAL FORM

The program review appeals process is available to any faculty, staff, or administrator who feels strongly that the prioritization of initiatives (i.e. initiatives that were not ranked high but should have been, initiatives that were ranked high but should not have been), the decision to support or not support program discontinuance, or the process followed by the division should be reviewed by the College Planning Council.

Appeal submitted by: (name and program) _____

Date:_____

Category for appeal: _____ Faculty

_____ Personnel – Other

_____ Equipment- Computer

_____ Equipment – Other

_____ Facilities

_____ Operating Budget

_____ Program Discontinuance

_____ Other (Please specify)

Briefly explain the process that was used to prioritize the initiative(s) being appealed:

Briefly explain the rationale for asking that the prioritization of an initiative/resource request be changed:

Appeals will be heard by the College Planning Council. You will be notified of your time to present.