



### **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?

Remaining Constant

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

Enrollment experienced an anomalous 28% drop in 2012 corresponding to a long time astronomy faculty member's retirement and resulting lack of instructional capacity. It then rebounded in AY 2013 and 2014 such that program enrollment is within 1% of its AY 2010 value. Astronomy enrollments are expected to continue to grow 5-10% annually with the addition of more and updated astronomy labs classes, and as astronomy discoveries continue to gain media popularity.

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).

While the college's overall percentage of hispanic enrollments grew from 47% to 56% from 2010 to 2014, in astronomy it reached a low of 45 % in 2013. The cause of the dip in hispanic enrollments in the program is unknown. Overall astronomy demographics have stayed relatively flat at a level of 48% for for the 2010 to 2014 period. If the dip in 2013 is statistically significant, then the 2014 data suggest that the percentage of hispanic enrollment may be changing to align more with the college's overall trends.

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).

**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?  
Yes
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).

An 18% difference in success rates between hispanics and whites existed in 2010 which has decreased to 11% in 2014. The success rates for both has increased by over 20% since 2010 which is believed to be related to the introduction of new part-time instructors in the program.

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 several significant changes have already been implemented for fall 2015 to increase equity and overall success rates. These include adopting a high-quality textbook in the fall of 2015 that is more readily available to the students at lower cost, and updating the astronomy labs with more engaging and student-centered activities. The results of these changes will be monitored through the spring of 2016 to determine their efficacy.

**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?  
Decreasing
3. Is your program's course fill rate increasing, decreasing, or remaining constant?  
Decreasing
4. Briefly describe the reasons for the trends in your program's productivity and course fill rate (600 characters max).

The change in productivity amounts to only a 6.5% decline over the past four years, but it should be noted that at 695 it remains well above the colleges goal of 170. The reasons for the decline are not certain, but are likely related to the loss of a full-time faculty member devoted to teaching astronomy. The decline in fill rates are likely related to increasing enrollment limits in order to take better advantage of classroom size. It has also become a recent practice to increase enrollment limits in online courses when the enrollment exceeds the initial limit rather than exceeding 100% fill

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)

**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?  
- Select -

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?

No

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

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

100%

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).

Several changes were made in the fall of 2015 including: 1) Adoption of a high-quality textbook that is more readily available to the students at lower cost; 2) Update of the astronomy labs with more engaging and student-centered activities. The results of these changes will be monitored through the spring of 2016 to determine their efficacy.



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

2 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)

No.

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

All astronomy courses strongly support "Scientific and Quantitative Reasoning" (ISLO-2) and "Critical Thinking and Problem Solving" (ISLO-3). In astronomy lecture classes students develop multiple skills needed to investigate or solve classic and novel scientific problems. In laboratory classes they perform 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)

**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 in the Physics and Astronomy inventory. A minimum annual equipment budget of \$2000 is needed to maintain the 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
Astronomy	Facilities	PHYS1507	Installation of Physical Vapor Deposition System	Provide electrical power and plumbing for donated physical vapor deposition system. For telescope mirrors and optical films.	500		500	L	L	L	L	No	Pending	
Astronomy	Equipment	PHYS1502	Telescopes for Astronomy Labs	Purchase eight telescopes for AST labs. The department has only two telescopes for 32 students.	5,459		5,459	H	H	H	H	No	Pending	
												- Select -	- Select -	
												- Select -	- Select -	



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
Astronomy	AST1601	Enrollment	An additional full-time astronomy faculty position is sought. The proposed faculty would provide more scheduling options, and enhance program stability. Astronomy courses and labs are taught primarily by part-time faculty. Courses would be developed to more fully engage and recruit students interested in astronomy or general STEM career fields	120,000	College Funds	General Fun	<input checked="" type="checkbox"/> Goal 1 <input type="checkbox"/> Goal 2 <input type="checkbox"/> Goal 3 <input type="checkbox"/> Goal 4 <input type="checkbox"/> Goal 5	<input checked="" type="checkbox"/> Enrollment <input type="checkbox"/> # Under-represented students <input type="checkbox"/> Course Success Rate <input checked="" type="checkbox"/> Productivity/Fill Rate <input type="checkbox"/> Degrees/Certificates <input type="checkbox"/> Close equity gaps	<input type="checkbox"/> Req <input type="checkbox"/> High <input checked="" type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low



2015-2016 Program Review  
Astronomy

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
Astronomy	AST1602	Productivity	Increase productivity through modification of class scheduling and increased class sizes.	0	None	Other	<input checked="" type="checkbox"/> Goal 1 <input type="checkbox"/> Goal 2 <input type="checkbox"/> Goal 3 <input type="checkbox"/> Goal 4 <input type="checkbox"/> Goal 5	<input type="checkbox"/> Enrollment <input type="checkbox"/> # Under-represented students <input type="checkbox"/> Course Success Rate <input checked="" type="checkbox"/> Productivity/Fill Rate <input type="checkbox"/> Degrees/Certificates <input type="checkbox"/> Close equity gaps	<input type="checkbox"/> Req <input type="checkbox"/> High <input checked="" type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low
Astronomy	AST1603	SLO Review	Review current SLOs and assessments to evaluate their effectiveness in revealing significant opportunities for program performance improvement.	0	None	Other	<input checked="" type="checkbox"/> Goal 1 <input type="checkbox"/> Goal 2 <input type="checkbox"/> Goal 3 <input type="checkbox"/> Goal 4 <input type="checkbox"/> Goal 5	<input type="checkbox"/> Enrollment <input type="checkbox"/> # Under-represented students <input checked="" type="checkbox"/> Course Success Rate <input type="checkbox"/> Productivity/Fill Rate <input type="checkbox"/> Degrees/Certificates <input type="checkbox"/> Close equity gaps	<input type="checkbox"/> Req <input type="checkbox"/> High <input checked="" type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low
					- Select -	- Select -	<input type="checkbox"/> Goal 1 <input type="checkbox"/> Goal 2 <input type="checkbox"/> Goal 3 <input type="checkbox"/> Goal 4	<input type="checkbox"/> Enrollment <input type="checkbox"/> # Under-represented students	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low



2015-2016 Program Review  
Astronomy

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
							<input type="checkbox"/> Goal 5	<input type="checkbox"/> Course Success Rate <input type="checkbox"/> Productivity/Fill Rate <input type="checkbox"/> Degrees/Certificates <input type="checkbox"/> Close equity gaps				
					- Select -	- Select -	<input type="checkbox"/> Goal 1 <input type="checkbox"/> Goal 2 <input type="checkbox"/> Goal 3 <input type="checkbox"/> Goal 4 <input type="checkbox"/> Goal 5	<input type="checkbox"/> Enrollment <input type="checkbox"/> # Under-represented students <input type="checkbox"/> Course Success Rate <input type="checkbox"/> Productivity/Fill Rate <input type="checkbox"/> Degrees/Certificates <input type="checkbox"/> Close equity gaps	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low
					- Select -	- Select -	<input type="checkbox"/> Goal 1 <input type="checkbox"/> Goal 2 <input type="checkbox"/> Goal 3 <input type="checkbox"/> Goal 4 <input type="checkbox"/> Goal 5	<input type="checkbox"/> Enrollment <input type="checkbox"/> # Under-represented students <input type="checkbox"/> Course Success Rate <input type="checkbox"/> Productivity/Fill Rate	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low	<input type="checkbox"/> Req <input type="checkbox"/> High <input type="checkbox"/> Med <input type="checkbox"/> Low



2015-2016 Program Review  
Astronomy

								<input type="checkbox"/> Degrees/ Certificates				
								<input type="checkbox"/> Close equity gaps				



### **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?**

**Please see Physics Program Review document for this discussion.**

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

**Please see Physics Program Review document for this discussion.**

**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:**

**Hugh O'Neill, Jeffrey Molony**

**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.**