



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).

Up 20 % since 2010. We seem to have higher numbers in the freshman level courses and fewer in the sophomore level courses.

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).

Female population is much smaller than that of the college though closer to that of the national demographics. In the USA, 18-20% of students earning Bachelor of Science Degrees are women (American Society for Engineering Education). We have a lower percentage. The percentage of female students has dropped in the past year.

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).

A committment by the college is required to provide smaller classes and support for students to meet the attainable challenge of an engineering education.

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?
Remaining Constant
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).

N/A

6. Are you able to increase your program's course success rate and/or close 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.



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

While well above the overall success rate of the college, above 80%, we continually strive to improve methods to increase success rates. In addition to email and early alerts, we are having more one-on-one discussions with students.

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?
Lower
2. Is your program's productivity increasing, decreasing, or remaining constant?
Remaining Constant
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).

The Engineering Program has a productivity standard of 380. At a productivity rate of 480, we are well above our productivity rate.

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



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

We are well above our rates productivity standard and over our fill rate. At this time, we will focus our resources elsewhere.

Section D - Degrees and Certificates Awarded

1. Does your program offer a degree or certificate of achievement?

Yes

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).

The number of degrees has increased 300%, but the numbers are still small. Engineering students have the goal of transferring to a university to earn a BS in Engineering. The local GE units required to get an AS from Ventura College are problematic to a high unit major.

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?

No



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.

5. Are there gaps between demographic groups (ethnicity, gender) in your program's awarding of degrees and certificates?
No
6. If yes, please describe the reasons for any gaps between demographic groups (600 characters max).

Similar demographics to the engineering students.

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?
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.

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

The answer to this is actually YES, but it is out of our control. If local GE requirements are waived, as they are for transfer degrees, more degrees would be awarded.
The number of degrees and certificates is lower than the number of Engineering students transferring to university programs. The degree and certificate program requires 43 units. Most students transfer without an associate degree as they are not interested in completing the extra courses required for the A.S. degree.

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)

N/A

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).

ENGRV01: Increased email communication has increased the number of students completing the final project.
ENGRV02: Small in-class design activities has improved quality of team design projects.
ENGRV12: Most initiatives have required other dept/institutional cooperation which has not been forthcoming.
ENGRV16/L: In-class activities resulted in improvements
ENGRV18/L: Various methods of student engagement have been attempted. Continuing to emphasize the need to master concepts presented in class prior to next class session (this is introduced in ENGRV01)



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

7 Courses

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

Completely

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

N/A

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

Engineering courses facilitate the achievement of ISLOs. All engineering courses incorporate written oral and/or visual communication skills in all courses. The engineering design process, incorporated in all engineering courses, supports critical thinking and problem solving. Strategies to self- manage personal, academic, and career goals and to cooperate, collaborate, and interact in teams, with a variety of cultures, peoples, and situations, are inherent in all engineering courses. Labs incorporate quantitative reasoning, collecting data in order to analyze, interpret, and/or evaluate it

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.)?

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.

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

We are on target, assessing according to plan and closing loops.

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)

The engineering budget was approved to be increased from \$600/ year to \$1000/year for instructional supplies in last years Program Review. This was the first increase in the budget since prior to 1992. Instructional supplies will allow for materials for student learning. Unfortunately, this budget has not been funded.



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
Engineering	Computer	ENGR1506	Hitachi CP-WX3015WN LCD Projector (wireless presentation ready) for SCI-101	This Hitachi projector precludes being tethered to the PC and allows multiple computer input from the instructor and the students through smart phones, laptops, and tablets, increasing student involvement and engagement in lectures.	750		750	M	M	M		Yes	Pending	Funded by ALAS grant but have not been able to find a workable solution to our needs
Engineering	Computer	ENGR1507	Hitachi CP-WX3015WN LCD Projector (wireless presentation ready) for	This Hitachi projector precludes being tethered to the PC and allows	750		750	L	L	L		No	Ongoing	



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Engineering

			SCI-106	multiple computer input from the instructor and the students through smart phones, laptops, and tablets, increasing student involvement and engagement in lectures.										
Engineering	Equipment	ENGR1501	Metallurgical Microscopes	Increase the number of microscope/camera stations from 3 to 6 in a lab materials engineering lab of 18 to 21 student engineers, eliminating the waiting time to view samples. This will manifest in a time savings of at least 1, and probably 2, lab sessions. This time can	6,500		6,500	H	H	H		Yes	Completed	Microscopes arrived October 21, 2015



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Engineering

				be better spent in increasing student comfort in recognizing crystal grain characteristics while ensuring each student has the opportunity to experience the process of crystallographic data acquisition.										
Engineering	Equipment	ENGR1502	Four 8 and 10 inch NANO 1000T Single Wheel, Bench Top Grinder/Polishers with Timer	The addition of 4 portable grinding stations to the 2 existing stations will eliminate wait time and tedious labor of hand polishing material specimens for a lab with 18 to 20 student engineers. The Materials Engineering lab would decrease	8,615		8,615	H	H	H		Yes	Completed	Purchase of equipment complete. New initiative will address plumbing requirements.



2015-2016 Program Review
Engineering

				specimen prep time by a factor of 3, improving student engagement and focus.										
Engineering	Equipment	ENGR1504	PASCO Materials Testing System ME 8230	Materials Engineering universal test machines were built in the 1940's. They are permanently placed in the lab, require several lab sessions for training, can need up to an hour of preparation, and are intimidating to uninitiated student engineers. Often, due to lack of prior exposure to heavy equipment, women student engineers are particularly intimidated	3,400	3,400	H	H	H		Yes	Completed	In use in ENGRV18 and ENGRV18L Fall 2015	

				<p>by the noise and complexity of the materials test machines. Consequently, most raw materials data is generated by the instructor as demonstration exercises with individual students taking notes and data manually to generate material properties. The Pasco ME-8230 materials test machine is more akin to those used in industry labs. It is small, portable, fast, and is PC, laptop, or tablet controlled. Student engineers are</p>										
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2015-2016 Program Review
Engineering

				able to conduct material tests right out of the box with little training.										
Engineering	Equipment	ENGR1503	Four Omega Strain Data Logger OM-CP-BRIDGE110-1000 plus software, batteries, terminals	With the addition of another full-time faculty member as well as new sections of our high-demand laboratory classes, the need for prepared labs, chemicals, and equipment has also grown. The department is requesting an increase in the student worker budget so that additional students can be hired to help the laboratory technicians. This is an	2,500		2,500	M	M	M		No	Ongoing	



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Engineering

				invaluable experience for the students as well as it prepares them for future employment in working laboratory environments .										
Engineering	Equipment	ENGR1508	Stanat Static Rolling Mill	The Stanat Rolling Mill replaces manual, unmeasurable methods of strain hardening soft metals (e.g. hammering copper wire) to enhance mechanical properties. The mill will provide measurable, verifiable changes (e.g. diameter reduction of copper rods) that can be correlated to	1,000		1,000	L	L	L		Yes	Completed	Pruchased through Grant from VC Foundation. Used in ENGRV18L in Fall, 2015 semester.



2015-2016 Program Review
Engineering

				material property changes that are accurate and reproducible. This testing adheres to industry practices and standards.										
Engineering	Equipment	ENGR1505	Two 4' x 6' double side portable whiteboards	SCI-101 has inadequate white boards and lacks wall space for mounting.	1,350		1,350	L	L	L		No	Ongoing	
Engineering	General Fund	ENGR1407	Permanently increase Engineering budget	Engineering properties of materials are determined by testing, experimentation, and making measurements. Activities require unique material samples. Tests employ standardized specimens and are destructive, resulting in specimens	1,000		1,000	H	H	H		No	Pending	Funded in FY15 Program Review but funds not awarded



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Engineering

				that are broken or otherwise permanently modified rendering them unusable for future use. The Engineering Department budget is dominated the cost of replacing material specimens. Increasing the Engineering Budget to cover the cost of replacing lab specimens and supplies will allow the course to maintain articulation with universities.										
Engineering	General Fund	ENGR1509	Purchase consumables for laboratory - tensile test coupons and polishing	Engineering properties of materials are determined by testing, experimentation, and	1,375		1,375	H	H	H		No	Pending	Funded in FY15 Program Review but funds not awarded



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Engineering

			supplies	making measurement s. Activities require unique material samples. Tests employ standardized specimens and are destructive, resulting in specimens that are broken or otherwise permanently modified rendering them unusable for future use. The department requests one time additional funds to cover specimen and supply shortfalls that have accumulated over previous years.										
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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
Engineering	ENGR1601	Plumbing in SCI-101	Complete maintenance of all water supplies and drains in ENGR lab, SCI-101. Modify water supply on south wall of SCI-101 to accommodate water to also be supplied to and drained from grinders while maintaining use of faucet.	in progress - emailed Jay M	College Funds	Facilities	<input checked="" type="checkbox"/> Goal 1 <input type="checkbox"/> Goal 2 <input type="checkbox"/> Goal 3 <input checked="" type="checkbox"/> Goal 4 <input type="checkbox"/> Goal 5	<input checked="" type="checkbox"/> Enrollment <input checked="" type="checkbox"/> # Under-represented students <input checked="" type="checkbox"/> Course Success Rate <input checked="" type="checkbox"/> Productivity/Fill Rate <input type="checkbox"/> Degrees/Certificates <input checked="" type="checkbox"/> Close equity gaps	<input type="checkbox"/> Req <input checked="" 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
Engineering

Engineering	ENGR1602	Current Probe	Purchase Fluke 80I-110s AC/DC Current Clamp for Circuits lecture and lab course. Probe will be used for hands-on demonstrations to improve student learning and comprehension.	900	College Funds	Equipment	<input checked="" type="checkbox"/> Goal 1 <input type="checkbox"/> Goal 2 <input type="checkbox"/> Goal 3 <input checked="" type="checkbox"/> Goal 4 <input type="checkbox"/> Goal 5	<input checked="" type="checkbox"/> Enrollment <input checked="" type="checkbox"/> # Under-represented students <input checked="" type="checkbox"/> Course Success Rate <input checked="" type="checkbox"/> Productivity/Fill Rate <input type="checkbox"/> Degrees/Certificates <input checked="" type="checkbox"/> Close equity gaps	<input type="checkbox"/> Req <input checked="" 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
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
Engineering	ENGR1603	Extensometers	Purchase two extensometers to enhance understanding of the mechanical responses of materials to external forces and provide practical and productive hands-on experience of the materials behavior theory. To improve the	3900	College Funds	Equipment	<input checked="" type="checkbox"/> Goal 1 <input type="checkbox"/> Goal 2 <input type="checkbox"/> Goal 3 <input checked="" type="checkbox"/> Goal 4 <input type="checkbox"/> Goal 5	<input checked="" type="checkbox"/> Enrollment <input checked="" type="checkbox"/> # Under-represented students <input checked="" type="checkbox"/> Course Success Rate <input checked="" type="checkbox"/> Productivity/Fill Rate <input type="checkbox"/> Degrees/Certificates <input checked="" type="checkbox"/> Close equity gaps	<input type="checkbox"/> Req <input checked="" 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
Engineering

			ability to work with materials data, to accumulate it, analyze it, and synthesize it, in order to make balanced assessments and smart engineering decisions.									
Engineering	ENGR1604	Polisher Repair	Maintenance /repair of Buehler polisher	1300	College Funds	Equipment	<input checked="" type="checkbox"/> Goal 1 <input type="checkbox"/> Goal 2 <input type="checkbox"/> Goal 3 <input checked="" type="checkbox"/> Goal 4 <input type="checkbox"/> Goal 5	<input checked="" type="checkbox"/> Enrollment <input checked="" type="checkbox"/> # Under-represented students <input checked="" type="checkbox"/> Course Success Rate <input checked="" type="checkbox"/> Productivity/Fill Rate <input type="checkbox"/> Degrees/Certificates <input checked="" 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
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
Engineering	ENGR1605	Function Generators	Replace outdated function generators for electronics labs	4169	None	- Select -	<input checked="" type="checkbox"/> Goal 1 <input type="checkbox"/> Goal 2 <input type="checkbox"/> Goal 3 <input checked="" type="checkbox"/> Goal 4 <input type="checkbox"/> Goal 5	<input type="checkbox"/> Enrollment <input type="checkbox"/> # Under-represented students <input type="checkbox"/> Course	<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
Engineering

			in physics and engineering..					Success Rate <input type="checkbox"/> Productivity/ Fill Rate <input type="checkbox"/> Degrees/ Certificates <input type="checkbox"/> Close equity gaps				
Engineering	ENGR1606	Engineering Assessment Rotational Plan	Verify and update Rotational Plan		None	- Select -	<input checked="" type="checkbox"/> Goal 1 <input type="checkbox"/> Goal 2 <input type="checkbox"/> Goal 3 <input checked="" type="checkbox"/> Goal 4 <input type="checkbox"/> Goal 5	<input checked="" type="checkbox"/> Enrollment <input checked="" type="checkbox"/> # Under-represented students <input checked="" type="checkbox"/> Course Success Rate <input checked="" type="checkbox"/> Productivity/ Fill Rate <input type="checkbox"/> Degrees/ Certificates <input checked="" type="checkbox"/> Close equity gaps	<input type="checkbox"/> Req <input checked="" 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



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?

It helped to have specific questions to answers and areas to address

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

Pull down menu referring to “Can you improve...?” had only yes and no available for responses. Since areas can always be improved upon, the answer to all would be yes, but then an initiative is required. We are focusing our initiatives on specific areas, not all areas, especially when we are doing very well.

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:

Dates met (include email discussions):

List of Faculty who participated in the program Review Process:

**George Warren
Hugh O’Neil
Jeff Wood
Michelle Millea**

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.