PROGRAM REVIEW Fall 2020

Program: ENGR (Engineering)
Division: STEM
Date: 30 Oct 2020
Writer(s): Keith Level
SLO/SAO Point-Person: Keith Level

Audience: Deans, Vice Presidents of Student Services and Academic Services, All Planning and Allocation Committees. This document will be available to the public.

Uses: This Program Review will be used to inform the campus and community about your program. It will also be used in the processes of creating Division Summaries, determining College Planning Priorities and allocating resources. A final use is to document fulfillment of accreditation requirements.

Please note: Program Review is NOT in itself a vehicle for making requests. All requests should be made through appropriate processes (e.g. Instructional Equipment Request Process) or directed to your dean or supervisor.

Time Frame: This Program Review should reflect on program status during the 2020-21 academic year. It should describe plans starting now and continuing through 2021-22.

Sections: This Program Review has been shortened due to the COVID-19 pandemic. The Program Review Committee understands that you are completing this program review in a time of stress and disruption and that this may affect many of your responses. Sections and questions are marked with the name of the committee or office that will use the information.

- The first section focuses on general program reflection and planning.
- The second section has specific questions to be filled out by all programs this year.
- The third section is a review of curriculum, to be filled out only by programs with curriculum.

Topics: The Program Review Glossary defines key terms. Writers should review this glossary before writing: https://bit.ly/2LqPxOW

For Help: Contact Nadiyah Taylor: ntaylor@laspositascollege.edu.

A list of contacts for help with specific sections is provided on the Program Review website under the "tools for writers" tab. [https://bit.ly/3fY7Ead]

Instructions:
1) Please respond to each question as completely as possible.
2) If the requested information does not apply to your program, write "Not Applicable."
3) Optional: Communicate with your dean about completing this document.
4) Send an electronic copy of this form to Nadiyah Taylor and your dean by Monday, November 2.

Links:
Program Review Home Page: laspositascollege.edu/instructionalprogramreview
Fall 2019 Program Reviews: laspositascollege.edu/programreview/pr2019.php
Frequently Asked Questions: laspositascollege.edu/instructionalprogramreview/programreviewfaqs.php

No Significant Changes Option

☐

Contact person: _____

By marking an X in the box above, the writers of this Program Review indicate that there have been no significant changes to their program or their program's needs in the past year. In this case, programs may opt not to complete Program Review Section One: Program Snapshot. **Programs must still complete all other sections (as applicable).**

Please note: Choosing this option means that your program's information may not be included in the yearly Division Summary.

The No Significant Changes Option may only be used for two years in a row; after two years, programs must complete a full Program Review including the Program Snapshot. Our program's most recent Program Snapshot was submitted in the following semester: Fall 20_____.

A. Accomplishments: What plans were achieved during AY19-20? You may describe achievements that were or were not planned in earlier Program Review. Your response may include actions regarding COVID-19. Please highlight any positive impacts to students.

Through the Curriculum Committee, 14 total degrees and certificates were approved:
7 Certificates of Achievement (Engr Tech, Civil/Mech Engrg, Elect Engrg, Elect Engrg UC Pathway, Engineering, Mech Engr UC Pathway, Software Engrg), and 7 degrees (AS Engr Tech, AS Civil/Mech Engrg, AS Elect Engrg, AS UC Pathway Elect Engrg, AS Engrg, AS Mech Engrg UC Pathway, AS Software Engrg). Adjunct Engineering instructor Jennifer Decker was responsible for the bulk of this work.

0.50 CAH unassigned time was allocated for the position of Engineering Coordinator. This amount increased the allocation from 0.25 CAH, but 0.50 CAH was the lowest amount allocated to any Coordinator of any department. To see this in context, between 2008-2017, the allocation for Engineering Coordinator was 0 CAH unassigned time, and, during this time, a new Engineering Technology degree program was begun, including the creation of a new course (ENGR 37). Although 0.50 CAH is an improvement, it is a modest increase from 0.25 CAH and is far less than a realistic 2.00 CAH requested.

Before Fall 2020, many LPC students transferred to 4-year universities as Engineering majors, even with the pandemic still in effect. An informal counting of these students has been performed since 2007, but is likely an undercount, based on the surveys only occurring in either ENGR 44 or ENGR 46 during Spring Semester. The average number of transfer students, transferring from LPC to 4-year universities, has averaged about 25 students/year for the last 10 years.

	Mark an X before each area that is addressed in your response.			Definitions of terms: https://bit.ly/2LqPxOW		
	Community Partnerships/Outreach		Facilities, Supplies and Equipment, Software	LPC Planning Priorities		Services to Students
X	Course Offerings	X	Financial/Budgetary	LPC Collaborations		SLO/SAO Process
X	Curriculum Committee Items		Human Resources	Pedagogy		Student Equity
X	External Factors		Learning Support	Professional Development		Technology Use

B. Challenges, Obstacles and Needs: Describe any significant challenges, obstacles or needs for your program. Your response may include issues regarding COVID-19. Please highlight any negative impacts for students.

I (Keith Level) am planning on retiring in the next 1-2 years, and I am the only full-time faculty member in the Engineering department. Assuming that the budget outlook is still bleak at the time of my retirement, it may be unlikely that the ENGR full-time position will be replaced immediately. This is a significant challenge, as, though Engineering may look quite small on the surface, its majors populate the majority of students in MATH 3,5,7 and PHYS 1B,1C,1D, and issues such as scheduling and advising have great potential impact on students' ability to transfer in a timely manner.

FTES allocation for ENGR 2021-22 decreased 0.57 FTEF (from 3.87 FTEF, reduced to 3.30 FTEF), a 15% reduction from the previous year, which translates to about two fewer courses being offered. The rationale for this decrease was explained as resulting from the low productivity for ENGR courses during the current Fall 2020 semester, which, in addition to being the first entire semester offered during COVID-19, is also the first semester in which a new Engineering Technology course, ENGR 50, is being offered. A major challenge for ENGR is how both Engineering Transfer courses and Engineering Technology courses are grouped within the same department, and when overall FTEF is reduced, offerings in the transfer program may be competing with offerings in the ET program.

Offering laboratory classes has posed a challenge in ENGR classes during COVID-19. Mark Newton, instructor in both ENGR 44 (Intro to Circuit Analysis) and ENGR 50 (Intro to Elect Systems and Measurements), has been very creative in both (a) developing a strategy to teach electronics-based lab by Distance Education, and also in (b) finding a way to pay for the additional equipment. With guidance by Dean Nan Ho, and money from the CARES act, Mark was able to assemble electronics lab kits which students will use at home. He is planning to use this same approach in his teaching of ENGR 44 during Spring 2021.

	Mark an X before each area that is addressed in your response.			Definitions of terms: https://bit.ly/2LqPxOW		
	Community Partnerships/Outreach	X	Facilities, Supplies and Equipment, Software		LPC Planning Priorities	X	Services to Students
X	Course Offerings	X	Financial/Budgetary	X	LPC Collaborations		SLO/SAO Process
	Curriculum Committee Items	X	Human Resources		Pedagogy	X	Student Equity
X	External Factors		Learning Support		Professional Development	X	Technology Use

C. IR Data Review: Describe any significant trends in your program's data from the office of Institutional Research and Planning. (Note: Not all Programs have IR data available; if your program does not have a data packet or dashboard data, you may note that in the response box.) You may also discuss any other data generated for your program by the Office of Institutional Research and Planning.

IR Data packets are available here: https://bit.ly/2IYaFu7

Course Success Rates Dashboard can be found at the bottom of this page: https://bit.ly/2Y9vGpI

For assistance with this question, contact the Director of Institutional Research and Planning. **[https://bit.ly/3fY7Ead]**

IR data indicate that Fall 2019 enrollments were up 18% relative to Fall 2017, continuing a trend of slightly increased enrollment since that time, but still less than the Fall enrollment numbers for both 2015 and 2016. Fall 2020 numbers are likely less than Fall 2019, based on the general trend involving college enrollment.

Transfer Student data: In spite of its importance, attention paid to measuring numbers of Engineering transfer students is still not where it should be. Informal student surveys, conducted during the Spring semester, seem to be the only data collected reflecting where Engineering transfer students are transferring, and in what major.

I would also like to add that, if numbers of students sitting in a classroom are the main measuring tool for "productivity", a discipline like Engineering will always pale in comparison to disciplines which include substantial general education offerings, and/or the ability to offer large lecture classes. Engineering labs are limited in how many seats are available, and as a major with many rigorous prerequisites, Engineering will likely also stay relatively small. What does distinguish Engineering, however, is that Engineering majors populate courses in other departments, including Math and Physics, and represent a substantial percentage of all transfer students coming from STEM disciplines. There are very few transfer students in Math or Physics, but both of these disciplines benefit greatly from having Engineering majors populate many of their classes. These last details never seem to be considered when measuring "productivity." A healthy Engineering department leads to enrollments which Engineering never gets credit for.

Mark an X before each area that is addressed in your response.				Definitions of terms: https://bit.ly/2LqPxOW		
	Community Partnerships/Outreach		Facilities, Supplies and Equipment, Software		LPC Planning Priorities	X	Services to Students
X	Course Offerings		Financial/Budgetary		LPC Collaborations		SLO/SAO Process
X	Curriculum Committee Items		Human Resources		Pedagogy		Student Equity
	External Factors	X	Learning Support		Professional Development		Technology Use

D. Short Term Planning: What are your most important plans, either new or continuing, for next year? Describe plans starting now and continuing through AY 21-22. (Optional: You may also describe long-term plans if desired.)

I (Keith Level) will likely retire within the next 1-2 years, which coincides with severe budget reductions over the next several years. A one-person department does not allow delegation of different coordinator responsibilities, as it does in larger departments. A new full-time Engineering instructor will face challenges on multiple fronts, and 0.50 CAH unassigned time is not adequate for all of the responsibilities involved in the position.

Scheduling of courses, without conflicts, continues to be an ongoing challenge. The conflicts are often of different natures: ENGR courses overlaps with required Math and Physics courses, Engineering Technology courses which don't conflict with other program courses (offered in other departments), and courses which don't overlap other courses which I am teaching.

I think there needs to be more discussion, both within departments and campus-wide, on what part of how distance education is currently performed, will continue once classes return to a face-to-face format. For example, in my own teaching, Zoom's ability to record every lecture is a useful tool to students, and I hope to continue this practice even after returning to face-to-face instruction.

Mark an X before each area that is addressed in your response.			Definitions of terms: https://bit.ly/2LqPxOW		
	Community Partnerships/Outreach		Facilities, Supplies and Equipment, Software	LPC Planning Priorities	X	Services to Students
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Section Two: Institutional Planning Topics (Required for All Programs)

A. Equity [Student Equity and Achievement Committee]: Please describe any recent actions your program has taken to increase equity and/or any challenges your program faces in promoting equity and equity-based decision-making? Areas to consider include students impacted by race/ethnicity, gender, sexuality, age, or disability status, as well as students who are disproportionately impacted due to the shift to remote instruction.

For assistance with this question, contact the Director of Student Equity and Achievement**. [https://bit.ly/3fY7Ead]**

> It is difficult to adequately assess how many students have been disproportionately impacted due to the shift to remote instruction. In an effort to provide equity to all students in access to technology, the IT department is providing laptop computers, with Solidworks CAD software, for students who need it for the ENGR 23 (Engineering Graphics) class. To date there have been about 10 students who have checked out these laptops.

B. SLOs/SAOs [SLO Committee]:

You should complete ONE of the following three sections. Please choose the option that is most appropriate for your program:

B1: Instructional Programs with PSLOs
B2: Instructional Programs without PSLOs or with Special Circumstances
B3: Non-Instructional Programs

Skip to the section you chose. If you are not sure which option to pick, contact the SLO Committee Chair or Program Review Committee Chair for assistance.

B1: Instructional Programs with PSLOs

In this year's Program Review, and in support of Accreditation, we would like a snap-shot on how your program plans to collect, discuss and report assessment findings to develop best practices for teaching and student learning ("closing the loop").

As a program, please select one PSLO for a degree or certificate to focus on. This PSLO should reflect one area of your program that you would like to investigate in depth. For example, your selection may focus on an area to improve student success, to update pedagogy, equity issues, or to examine a new degree/certificate, etc.

In this section, describe your plan for assessment data to be collected, analyzed and discussed, and reported out in next year's Program Review. Your plan should identify the CSLOs that feed into your selected PSLO so that a complete data set is collected. You may choose to do this over one or two semesters. In next year's Program Review, you will be asked to summarize your SLO assessments, analysis of those findings, and proposed changes that may be implemented to improve teaching and student learning.

For assistance with these questions, contact the SLO Committee Chair. **[https://bit.ly/3fY7Ead]**

B1a. **In the space below, insert the complete wording of the PSLO and potential reason(s) for selecting it for analysis.**

Not applicable (no PSLOs)

B1b. In the table below, list the CSLOs that feed up to the identified PSLO and check the semester or semester(s) that the CSLO will be assessed and data entered into eLumen.
(If this different than the submitted SLO template plan, please update and resubmit the template plan. Send the updated template to mwiest@laspositascollege.edu and ahight@laspositascollege.edu)

Complete Name of CSLO	Fall 2020	Spring 2021	Summer 2021
Not applicable			

B1c. When will analysis and discussion of the assessment data be completed (during next year's Program Review is an option)? The reporting out of the "closing the loop" analysis will be part of next year's Program Review.

Not applicable

B2: Instructional Programs without PSLOs or with Special Circumstances

If your department does not have PSLOs, you may choose one CSLO to focus on. This option may also be used if there is a strong departmental rationale for focusing on a single CSLO.

As a department, please select a course to focus on. The selected course and one of its CSLOs should reflect an area that you would like to investigate in depth. For example, your selection may focus on a course to improve student success, to update pedagogy, to analyze equity issues, etc.

For assistance with these questions, contact the SLO Committee Chair. **[https://bit.ly/3fY7Ead]**

B2a. In the space below, describe the rationale (such as this is not a degree-granting program, we focus mainly on non-degree courses, etc.)

Until June 2020, Engineering Transfer students have not had degrees available. Prior to this time, Engineering Transfer students would transfer to a 4-year university without completing a degree or certificate. Beginning this semester, with 14 new degrees and certificates.

B2b.

In the space below, insert the complete wording of the CSLO and reason(s) for selecting it for analysis.

ENGR 1: Introduction to Engineering

CSLO: Upon completion of ENGR 1, students will be able to identify and differentiate between the different engineering branches.

This course was selected because it is taught more each academic year than any other ENGR class. This particular CSLO was chosen because it demonstrates a fundamental understanding about the different types of engineering.

B2c. In the

table below, list the CSLO and check the semester or semester(s) that the CSLO will be assessed and data entered into eLumen.

(If this is different than the submitted SLO template plan, please update and resubmit the template plan. Send the updated template to mwiest@laspositascollege.edu and ahight@laspositascollege.edu)

Complete Name of CSLO	Fall 2020	Spring 2021	Summer 2021
CSLO: Upon completion of ENGR 1, students will be able to identify and differentiate between the different engineering branches.	2 sections (Level and Decker)	2 sections (Level and Decker)	

B2d. When will analysis and discussion of the assessment data be completed?   (During next year's Program Review is an option.) The reporting out of the "closing the loop" analysis will be part of next year's Program Review.

During next year's Program Review

B3: Non-Instructional Programs

In this year's Program Review, and in support of Accreditation, we would like a snap-shot of how your student service area plans to collect, discuss, and report assessment findings to develop best practices for teaching and student learning ("closing the loop").

Please select one SAO to focus on. This SAO should reflect an area of your program that you would like to investigate in depth. For example, your selection may focus on an area to improve student success, increase best practices, to address equity issues, or to examine a new service/program, etc. The intent is for this section to be useful for reflection to develop best practices for serving students.

For assistance with these questions, contact the SLO Committee Chair. **[https://bit.ly/3fY7Ead]**

B3a. **In the space below, insert the complete wording of the SAO and potential reason(s) for selecting it for analysis.**

<div style="border:1px solid black">
Not applicable
</div>

B3b. When and how will this SAO be assessed and data entered into eLumen? (If this different than the submitted template plan, please update and resubmit the template plan. Send the updated template to mwiest@laspositascollege.edu and ahight@laspositascollege.edu)

<div style="border:1px solid black">
Not applicable
</div>

B3c. When will analysis of the assessment data will be completed (during next year's Program Review is an option)? The reporting out of the "closing the loop" analysis will be part of next year's Program Review.

<div style="border:1px solid black">
Not applicable
</div>

The following questions ask you to review your program's curriculum. To see the last outline revision date and revision due date:

> **1. Log in to CurricUNET**
> **2. Select "Course Outline Report" under "Reports/Interfaces"**
> **3. Select the report as an Excel file or as HTML**

A. Title V Updates [Curriculum Committee]: Are any of your courses requiring an update to stay within the 5 year cycle? List courses needing updates below. Reminder: updates to course title or units, and course deactivations, will require updating any program they are associated with. List programs requiring updating in question (B).

> All courses have been updated within the last 5 years.
>
> There may be a possible addition of an ENGR course in Vacuum Technology, either as a credit course or a non-credit course. The intent is for this course to be eventually added as a credit course in the Engineering Technology program.

B. Degree/Certificate Updates [Curriculum Committee]: Are there any programs requiring modification? List needed changes below.

> No programs requiring modification

C. DE Courses/Degrees/Certificates [Distance Education Committee]: Detail your department's plans, if any, for adding DE courses, degrees, and/or certificates. For new DE degrees and/or certificates (those offered completely online), please include a brief rationale as to why the degree/certificate will be offered online.

> Besides those courses approved for DE during Fall 2020, ENGR 37 and ENGR 46 will both need DE addenda for Spring 2021.