PROGRAM REVIEW UPDATE 2015-2016

Program: Engineering

Division: STEMPS

Date: 15 September 2015

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.*

Purpose: *To document significant program accomplishments, plans and needs between Triennial Program Reviews. This update should provide a snapshot of your program.*

Time Frame: *This update should reflect on program status during the 2014-15 academic year. It should describe plans starting now and continuing through 2016-17.*

Topics: *The first section of this Program Review Update focuses on general program reflection and planning. The second and third sections focus on reflection and planning regarding Student Learning Outcomes.*

Scope: *While this Program Review Update does ask for some analysis of data, detailed data reports in the form of appendices should be reserved for the Triennial Program Review.*

Instructions:

1) *Please fill in the following information as completely as possible.*
2) *If the requested information does not apply to your program, please write "No Changes Since the Program Planning Update."*
3) *Send an electronic copy of this form to the Program Review Committee Chair and your Dean by ____.*

Part One: Program Snapshot

A. Have there been any significant changes to your program, your program's data or your program's needs since the previous Program Planning Update?

If there are any changes, describe the relevant information and its significance in the space below.

These changes might have originated from within the program or because of an external source (the institution or the state, for example). Possible sources of relevant information might include, but are not limited to, the following:

- Data generated by your program
- Data from the Office of Institutional Research
- CEMC Data
- Retirements
- State Mandates
- Labor Market Data

A new Associates of Science degree in Mechanical Engineering Technology (ASMET) has been established, created as part of a process to facilitate the training of returning veterans students to become employed at National Laboratories such as Lawrence Livermore National Laboratories. Keith Level has been involved in the design and teaching of existing ENGR courses, and in the creation (and teaching) of a new course, ENGR 37 (Applied Statics and Materials)
Two new adjunct faculty have taught ENGR courses in the last 2 years: Jennifer Decker has taught both ENGR 46 (Materials of Engineering) in Spring 2015 and ENGR 10 (Intro to Engineering) in both Fall 2014 and Fall 2015; Walter Nederbragt has taught ENGR 10 (Intro to Engineering) in Fall 2015. These are the first 2 temporary adjunct faculty to teach in Engineering at

Las Positas College in the last 10 years.

Enrollments have increased in ENGR 10 (Introduction to Engineering), and have maintained similar numbers as found in past years in ENGR 25, ENGR 35, ENGR 46 and ENGR 44

B. What objectives, initiatives, or plans from the 2014 Program Planning Update (PPU) have been achieved and how?

Adding additional Engineering course sections, in ENGR 10 (Spring 2016) and an additional lab section in ENGR 44 (Spring 2016).
Hiring additional adjunct faculty in Engineering (Jennifer Decker, Walter Nederbragt)

C. What obstacles has your program faced in achieving objectives, initiatives, or plans?

Lack of resources, particularly human resources. There is still no release time or compensation available for any of the tasks associated with (a) managing, scheduling, and maintaining currency of Engineering courses, which articulate to four-year universities, and with (b) coordinating the Engineering Transfer Program. The Engineering Transfer Program is responsible for a significant percentage of all students enrolled in MATH 1-2-3-5-7, and PHYS 8A-8B-8C-8D. Historically, enrollments have been viewed as stand alone, but, without Engineering Transfer Students, many of these Math and Physics courses would not have enough students to warrant a class.

D. What are your most important plans (either new or continuing) for next year?

Maintain growth trend for ENGR 10 courses
Plan an effective expansion of some course offerings.
Continue to effectively teach, and plan (where possible) courses for Veterans Cohort classes.

E. Do plans listed under question (D) connect to this year's planning priorities (listed below)? If so, explain how they connect.

Planning Priorities for 2015-16

- ***Establish regular and ongoing processes to implement best practices to meet ACCJC standards***
- ***Provide necessary institutional support for curriculum development and maintenance***
- ***Develop processes to facilitate ongoing meaningful assessment of SLOs and integrate assessment of SLOs into college processes***
- ***Expand tutoring services to meet demand and support student success in Basic Skills, CTE and Transfer courses.***

Engineering Transfer courses are designed to meet a standard set by 4-year universities. If these standards are not met, the courses will not articulate. There are currently about 30 different public universities in California with Engineering departments or schools.

Curriculum development and maintenance is central to expanding course offerings in Engineering.

F. Instructional programs: Did your program meet its program-set standard for successful course completion? _X_yes _____no

(This data can be found here: http://goo.gl/y9ZBmt)

If your program did not meet your program-set standard, discuss possible reasons and how this may affect program planning or resource requests.

Not applicable

G. How have students been impacted by the work of your program since the last Program Planning Update (PPU)?

Maintained large numbers of successful Engineering-Transfer students
An additional section of ENGR 10 has been planned for Spring 2016, providing information about the engineering major and engineering career to a larger number of students.

Part Two: SLO/SAO Assessment Review

Review your program's SLO assessment results for AY 2014-2015 and respond to the following questions.

A. Discuss how assessment results in at least one course in the program indicate success in student learning (OR) Discuss how assessment results of at least one SAO in the program indicate success in service to students.

Assessments in ENGR 10 (Fall 2014) and ENGR 35 (Fall 2014) both indicate success in student learning.

B. Discuss assessment results that indicate a need for improvement.

Assessments in ENGR 44 indicate a continuing need for more directed coverage and direction in operating electrical circuits equipment, including oscilloscopes, power supplies, and digital multimeters. Some of this need for improvement may be addressed by reducing the size of the lab sections, which has been addressed for Spring 2016 semester by adding an additional lab section for ENGR 44.

C. Instructional Programs: For the course(s) listed in (B) above, discuss how your program, or someone in your program, made changes or plans to make changes in pedagogy as a result of SLO assessment results.

Non-Instructional Programs: For the areas(s) listed in (B) above, discuss how your program made changes or plans to make changes as a result of SAO assessment results.

ENGR 44 will include an additional lab meeting, on top of the lab meetings used in the past, which will include more directed exercises in the use of oscilloscopes, power supplies, and digital multimeters

D. Instructional Programs Only: Give an example of a change in the number of units and/or lab hours based on assessment data, if applicable.

No changes in the number of units or lab hours.

E. Instructional Programs: Discuss how distance education course assessment results compare to face-to-face courses, if applicable. (*Respond to this question if your program has distance education courses*.)

Non-Instructional Programs: Discuss how SAO assessment results for online services compare to face-to-face services, if applicable. (*Respond to this question if your program provides services online*.)

Not applicable

F. Did your program discover the need for additional resources (for AY 15-16 or 2016-17) based on the assessment results? YES ☒ NO ☐

If yes, please explain.

There has been a need for additional resources for many years, even prior to evaluation of assessment results. Adding an additional laboratory section to ENGR 44 is one step in addressing this issue. Currently there is no release time for the coordinator of the Engineering Transfer Program. During Fall 2015 semester, Engineering Transfer students generated 44% of all students enrolled in MATH 1, 2, 3, PHYS 8A, 8B and 8C.

Part Three: SLO/SAO Continuous Improvement Process

A. SLO Planning through AY 2016-17

As appropriate for your program, please address each of the following areas. For each area, describe your program's plans starting now and continuing through the academic year 2016-17. Focus on how the program's SLO process will impact student learning or the student experience at Las Positas College.

1. SLO/SAO assessments: How does your program plan to use assessment results for the continuous improvement of student learning or services? (*NOTE: 100% of courses in your disciplines should be assessed a minimum of once every two years. Each program must assess at least 25% of its courses every semester. Programs with SAOs should assess at least 50% of their SAOs every year*).

   Examples might include (Your responses may vary.):
   - changing number of units/lab hours
   - changing pedagogy/curriculum
   - changing assessments
   - changing service hours
   - changing modes of service delivery

New Assessments in ENGR 10 will be developed with the assistance of 2 adjunct ENGR 10 instructors, in ENGR 46 with the assistance on an adjunct instructor, and in ENGR 44 to strengthen the learning outcome of demonstrating skill in the use of laboratory equipment.

2. Have your assessment results shown a need for new/revised SLO/SAOs? YES ☐ NO ☐

   If yes, complete the table below:

Estimated number of courses for which SLOs will be written or revised:	1-2
Estimated number of SAOs that will be written or revised:	

   a. What courses or SAOs will your program assess during this academic year (2015-16)?

ENGR 10 (Introduction to Engineering) ENGR 35 (Statics) ENGR 46 (Materials of Engineering) ENGR 44 (Electrical Circuit Analysis)

   b. Instructional programs only: In order to budget to pay part-time faculty to work on SLOs during the academic year 2015-16, estimate the number of part-time faculty in your program who are likely to participate in the SLO process in 2015-16.

Number of Part-Time faculty who will participate in the SLO process (creating, assessing or discussing SLOs)	
Fall 2015	2
Spring 2016	1-2