Las Positas College
PROGRAM PLANNING UPDATE (Instructional) AY 2015-2016

Name of Program	Division	Author(s)
Engineering	STEMPS	Keith Level

INSTRUCTIONS:

1. This Program Planning Update covers the academic years 2012-2013 and 2013-2014.
2. The planning should be for the academic year 2015-2016.
3. Use the Save As feature in Word to save this template with your program name, so that you do not overwrite the original template. Please use your program's catalog rubric and this format when naming your document:

   Rubric INS PPU 15_16
   e.g., ESL INS PPU 15_16
4. If the document displays in large type with only File, Tools, and View tabs at the top of the page, select **View, Edit Document**. You will then be able to type where it says "Click here to enter text" and you will be able to click on the check boxes to select them.
5. In each section, click in the box under the instructions and fill in your information. The box will expand as you type. If a section is not pertinent to your program enter N/A in the box; do not leave it blank.
6. When you have completed the form, run the spell-checker (**click inside the text in the first box**, then click on the Review tab and find Spell-Check in the far left corner of the ribbon).
7. Please address your questions to your Program Review Committee representatives or the PR Chair Karin Spirn. Concerns, feedback and suggestions are welcome at any time to PRC representatives or co-chairs.
8. Instructions for submitting your Program Planning Update will be available at the start of the fall semester.

I.   STUDENT LEARNING OUTCOMES

Review of academic years 2012-13 and 2013-14

A. **SLO Assessment Review**

Review your program's SLO assessment results through spring 2014 and respond to the following questions.

1. Discuss how assessment results indicate success in student learning. Identify results that indicate a need for improvement.

For all ENGR courses assessed in the 2012-13 and 2013-14 academic years, 93% of all students scored 2 or higher, and 72% of all students scored 3 or higher. Assessment data indicate that ENGR courses have maintained their integrity, helping students who transfer to complete their 4-year degrees successfully.

The results that need improvement are mainly two courses, ENGR 35 (Statics) and ENGR 44

(Intro to Circuit Analysis). In ENGR 35, 66% of students scored 3 or higher in analyzing the distribution of internal bending moment and shear forces on beams, and 56% of students scored 3 or higher in developing analysis methods to examine force systems acting on engineering structures in static equilibrium. In ENGR 44, 65% of students scored 3 or higher in utilizing electronic equipment to physically measure and analyze electrical circuits.

2. Discuss how distance education courses assessment results compare to face-to-face courses, if applicable? (*Respond to this question if your program has distance education courses*.)

N/A

3. Discuss how your discipline, or someone in your discipline, made changes in pedagogy as a result of SLO assessment results.

Additional course coverage of 5 materials classifications used in ENGR 46 (Materials)

Additional lecture time spent discussing the differences between different engineering branches used in ENGR 10 (Intro to Engineering).

4. Give an example of a change in the number of units and/or lab hours based on assessment data, if applicable.

None

5. Did your program discover the need for additional resources (for AY 2015-16) based on the assessment results?   YES ☐   NO ☐

   If yes, please explain.

No

B. **SLO Process**

1. Describe how your program reaches consensus when writing student learning outcomes that are used in multiple sections.

My program offers only one section of each course.   ☐

> Up until Fall 2014, I have been the only instructor in ENGR 10 (Introduction to Engineering), which is the only class with multiple sections. Because of this reason, I duplicate my SLOs used in each section.

2. Describe how your program reaches consensus when developing and evaluating assessment results for student learning outcomes that are used in multiple sections.

My program offers only one section of each course.   ☐

> I have found it very difficult to draw definitive conclusions from assessment data used in multiple sections. Since Las Positas College is an open-admissions college, and ENGR 10 (Introduction to Engineering), the only Engineering course with multiple sections, has no prerequisites, the quality of the student coming into the class can be quite varied.

3. What methods does your program use for documenting SLO related discussions? Check all that apply.

Program emails ☐

Program meeting minutes/agendas   ☐

Blackboard/other website   ☐

Other (please describe):   ☐

> In a one-person department, I don't rely on any of these methods.

II. PROGRAM ANALYSIS

Review of academic years 2012-13 and 2013-14

Review the student data provided by the Office of Institutional Research and any additional data your program has collected. Then respond to the sections below.

A. **Data Review**

If applicable, summarize any *changes* in your program's data since the Annual Program Review of 2011-12 or observed significant trends that will affect program planning or resource requests.

NOTE: Only include changes that affect student learning, program planning or resource requests.

> The largest increase in ethnic groups in ENGR occurred in the Latino group, increasing from 11 to 27 students between Fall 2009 and Fall 2013.

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B. **Program-Set Standard for Successful Course Completion Rates**

Your program-set standard for successful course completion rates (i.e., number of grades of 'A', 'B', 'C', 'CR', and 'P' divided by total grades) is calculated by averaging successful course completion rates for your program over a five-year period and then multiplying that result by 95%.

In order to determine if you have achieved your program-set standard for successful course completion rates for a given year (e.g., 2012-13), you will need to assess if your program met or exceeded 95% of the previous 5-year average (i.e., 2007-08 through 2011-12) for your program; these calculations are done for you (*see links below*).

1. What was your program-set standard for successful course completion rates in 2012-13 and 2013-14?

	Program-Set Standard for successful course completion	**Did you meet your program-set standard? (Yes or No)**
2012-13	http://tinyurl.com/mmfwqfe	
2013-14	http://tinyurl.com/q6dah55	

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

Above answers: We met our program set standard for 2012-13 but not for 2013-14:

2012-13:   Yes—69% success rate (vs 66% Prog Set Std over 5-year time period)

2013-14:   No—64% success rate (vs 66% Prog Set Std over 5-year time period). If 4 additional students had had successful grades in 2013-14 (out of 209 total students), ENGR would have met its program-set standard. Engineering is a particularly rigorous discipline, and over the five-year time period studied, its enrollment increased from 175 (in 2008-09) to 230 students (in 2013-14), an increase of 31%. The fact that the success rate for 2013-14 was short of its program-set standard by just 4 students is likely a function of both (a) a slight statistical variation and (b) a side-effect of rapid growth in enrollment.

C. **Curriculum Review**

1. Review your program's current curriculum. If applicable, describe any internal or external impacts which will affect your curriculum plans for 2015-16.

I am currently updating Course Outlines for ENGR 10 and ENGR 22.

D. **Human Resources**

1. Have there been changes in the number of full-time or part-time faculty associated with your program since the Annual Program Review of 2011-12? If yes, briefly describe the changes.

Engineering (ENGR) is employing an adjunct faculty member for the Fall 2014 semester, and this is the first time an adjunct has taught in ENGR at LPC in about 10 years. This trend may continue as the newly formed Mechanical Engineering Technology program at LPC gets started.

2. Have there been changes in the number of full-time or part-time classified staff associated with your program since the Annual Program Review of 2011-12? If yes, briefly describe the changes.

The laboratory technician for ENGR between 2008-2014, Thomas Dodge, resigned during Spring 2014, and a new laboratory technician, Andrew Lozano, has been hired and began work in mid-August 2014

3. If applicable, describe how the changes indicated in 1 and 2 have impacted student learning?

The hiring of a new adjunct instructor will improve student learning, by allowing the program to offer a wider variety of ENGR course offerings.

E. **Other information pertinent to the program**

Click here to enter text.

III. PLANNING

A. Planning Update

Summarize your program's plans, initiatives, and objectives accomplished since the Annual Program Review of AY 2011-12 (include accomplishments for the academic years 2012-13 and 2013-14).

Overall enrollment in ENGR courses increased 104% (from 112 to 230) from 2007-08 to 2013-14, and decreased slightly (-5%, from 242 to 230) since the last program review in AY 2011-12. In 5 years time, the enrollment more than doubled, yet ENGR experienced no increase in FTEF, no increase in supplies budget money, and a reduction in release time (from 2 CAH to 0 CAH) for its one full-time faculty member.

A new Mechanical Engineering Technology Associates of Science degree program, targeted at returning veteran students, began in the summer 2014

B. **Program Planning for AY 2015-16**

As appropriate for your program, please address each of the following areas. For each area, describe your program's plans, initiatives, and objectives for the academic year 2015-16. Focus on how planning will impact student learning or the student experience at Las Positas College.

1. SLO assessments. NOTE: 100% of courses in your disciplines should be assessed a minimum of once every two years. As a guideline, each program should be assessing 25% of its courses every semester.

   a. How does your program plan to use assessment results for the continuous improvement of student learning? Examples might include (Your responses may vary.):

      - changing number of units/lab hours
      - changing pedagogy/curriculum
      - changing assessments

Changing pedagogy/curriculum. Engineering courses are amongst the most rigorous and challenging of any academic discipline found at LPC, and there exists a constant need to continually be aware of new approaches and techniques (pedagogy) used to teach these courses. In addition, there is also a need to continually update course content. One recent example of this is the transition from using AutoCAD computer-aided-drafting software (CAD), to using Solidworks CAD software.

Changing the number of units and lab hours is an issue more aligned with the union and past history. For example, nearly all Mathematics courses are worth 5 units, yet no Engineering courses are worth 5 units.

   b. Have your assessment results shown a need for new SLOs?   YES ☐   NO ☐
      If yes, in the table below, state the number of courses in your program and estimate the percentage of courses for which your program will write new SLOs.

Number of Courses	Estimated Percentage for which new SLOs will be written
6	50%

c. What percentage of courses will your program assess in the next academic year (2015-16)?

About 50%

d. 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 and the percentage of them who are likely to participate in the SLO process in 2015-16.

Estimated Number of Part-time faculty	Estimated Percentage who will participate in the SLO process
1	0

4. Curriculum

a. Considering the criteria of relevance, appropriateness, achievement of course objectives, currency, and future needs and plans, will your program be making any changes to **existing** curriculum to address any of these criteria? If yes, please describe the changes and your program's reasons for the changes. Please provide any data which supports your program's reasons for the changes to your curriculum. Include a discussion of how the changes will improve student learning.

There are some curriculum changes underway regarding courses used in the Mechanical Engineering Technology program (started Fall 2014)

b. Will new curriculum be submitted to the Curriculum Committee for the academic year 2015-2016? If yes, please describe briefly what new curriculum is planned and the rationale for the new curriculum. Please provide any data which supports your reasons for the new curriculum. Include a discussion of how the changes will improve student learning.

No

5.   General Program Planning

Use this area to describe any program plans, initiative, or objectives your program wishes to accomplish in 2015-16 and their impact on student learning or the student experience. Focus on what the plans are and how they are to be accomplished (not resources needed).

> Recover supplies budget money of $1500/year. This is essential if student laboratory experiences are intended to include hands-on use of equipment.
>
> Reinstate 2 CAH release time for coordinator of Engineering Transfer Program. Considering the growth of the Engineering program enrollments in the last 5 years (104% increase), and the consistent rate of 25-30 students every year transferring to a four-year engineering program, the responsibilities of the coordinator are substantial, including advising, scheduling field trips, and maintaining current articulation information.

IV.   Resource Requests for AY2015-16

Complete all areas that apply to your program's resource needs for 2015-16 (**not all areas apply to all programs**).

For each request, in the rationale section:

- Describe how meeting this request will improve student learning or the student experience.

- Provide any data or evidence which supports this request.

A. Enrollment Management

1.   Request: New FTEF. Indicate amount being requested.

> 0.4 FTEF requested (see 2. for rationale)

2.   Rationale for request(s).

> Addition of 6 new CAH in Engineering for 2015-16 (from additional courses in Mechanical Engineering Technology program)

C. Human Resources

1.   Request: New or replacement faculty position(s).

> Possible request for 15 CAH coverage for banked leave in Spring 2016.

2. Rationale for faculty position request(s).

> To cover teaching of ENGR courses during Spring 2016

3. Request: Classified staff position(s) (for example, new or replacement classified staff position(s) or increasing classified hours/position level).

> None

4. Rationale for classified staff position request(s).

> None

D. **Financial**

  1. Request: Maintenance of, or increase in, existing program budget (e.g., for supplies, etc.).

> Restoration of an historical supplies budget of about $1500. This amount was cut in half in Fall 2014, with no communication or rationale provided.

  2. Rationale for financial request(s).

> Supplies and equipment for 2 main laboratory courses: ENGR 44 (Intro to Circuit Analysis) and ENGR 46 (Materials of Engineering) are needed.

E. **Technology (software only – discuss hardware in section E)**

  1. Request: Upgrade existing software or purchase new software.

> Maintain current version of SolidWorks

  2. Rationale for technology request(s).

> Maintain currency of software used.

F. **Facilities, Equipment (include technology hardware), and Supplies**

1. Request: Renovation or upgrade of existing facilities or new facilities.

> None

2. Rationale for facilities request(s).

> N/A

3. Request: Upgrading of existing equipment or purchase of new equipment.

> Additional equipment used in ENGR 46 (Materials of Engineering) course, including (a) mounting apparatus, (b) cold-work press, and (c) metallography equipment.

4. Rationale for equipment request(s).

> Maintain laboratory to reflect course content

5. Request: New supplies

> On-going supplies used in Materials Lab, Intro to Engineering projects

6. Rationale for supplies request(s).

> Needed to teach each course.