PROGRAM REVIEW UPDATE 2015-2016

Program: Mathematics

Division: STEMPS

Date: 8/14/2015

Writer(s): Math Department

SLO/SAO Point-Person: Craig Kutil

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

1. New Initiatives:
    - Successful rollout of Math Jam!
    - Creation and approval of a new pathway (Math 50 Core Intermediate Algebra) through Intermediate Algebra (Math 55) to address needs of non-STEM students and low success rates in Math 55.

2. Change in Staffing:
    - With the retirement of Cindy Keune (Spring 2015) and pending retirement of Randy Taylor (Fall 2015), the number of full-time faculty and ratio of full-time to part-timers

declined.

3. Change in Productivity due to Curriculum and Scheduling changes:
    - Math 40 replaced 42/42B/44 sequence (impacted productivity by reducing load from 5 to 4 units.)
    - Math X – reduction of student contact hours that impacted productivity.

4. The Math department no longer offers late start classes due to budget restrictions (and not pedagogy.)
5. Programs offered in context of a specific discipline
    - Engineering Technology cohort offered in conjunction with Veteran's office which offers a fast track sequence of Math 55, 38, and 20 in the context of future work at National labs.
    - We are offering Early Childhood Development cohort for future teachers by offering Math 107, 65, 55, 47 in the context of early childhood development.

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

Teri Henson did create a non-stem pathway through Algebra (Math 50 Core Intermediate Algebra.)

The Math department now offers semi-annual 'Math Jam' program designed to help students to prepare and succeed in their upcoming math classes, or retake the assessment exam and possibly jump a level in placement. 100% of Math faculty has supported the program and allowed 'jumpers' to add into their courses (above the cap size.)

We successfully implemented changes to our Math X program.

We successfully offered Math 47 (Mathematics for Liberal Arts).

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

We need to find permanent funding for Math Jam.

We need funding for additional support in the Math X program – coordinator, IA support, etc.

We continue to struggle with adequate facilities: available classrooms and computer labs.

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

We are redesigning the curriculum for the Pre-Calculus/Trigonometry sequence.

We are streamlining the Blackboard and Math Department websites to better serve faculty and students.

We continue to explore the possibilities of offering courses in a condensed schedule (allowing for fast-track courses).
The Open Math Lab of the Integrated Learning Center has two main purposes: to support student

learning through the TBA hour associated with select math courses and enhance instruction, and to give students opportunities to get "just-in-time" drop-in help with any math assignment or course. Because of this dual role, the Open Math Lab is an academic service as well as a student service. By collecting data that separates drop-in help from TBA, we can determine the proportion of the OML that is academic versus student service. Also, we can more easily track students who come in for drop-in help to see how successful they are in their courses.

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.***

Math Jam and Math X tutors reflect the goals of bullet point 4 above.

By disaggregating the data for TBA and drop-in help, we can clearly see the services in the ILC as distinctly "Academic" or "Student Support". Also, this data would show more distinctly how we are supporting tutoring services with the drop-in help, and allow us to better track students who are receiving the extra help.

Part of our planning priority for this year is to seek professional development opportunities for part-time and full-time faculty members around the implementation of several new math courses, improvements in Math X program, curriculum redesign, etc.

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.

Yes, we did meet the program-set standard.

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

Math Jam has been incredibly successful. Here are some highlights from Spring 2015 session:

- Students who attended Math Jam were more likely to succeed in their math course than

students who did not participate.
    - MJ Participants in Math 107 Pre-Algebra had a success rate of 80% compared to the general population of 46%.
    - MJ Participants in Math 65 Elementary Algebra had a success rate of 79% compared to the general population of 51%.
    - MJ Participants in Math 55 Intermediate Algebra had a success rate of 71% compared to the general population of 48%.
- Math Jam "Jumpers" (they retook the Assessment Test and were placed into a math class 1 level higher and were added in) had an 81.8% success rate in their JUMPED course.
- Math Jam participants had to take a rigorous LPC created diagnostic exam and 89% of them improved their score when reassessed at the end of the week.

Requiring Math lab worksheets in Math X has positively impacted student engagement in concepts.

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.

Looking at our Math 65 SLO data (Fall and Spring of 2014/2015), we had approximately 52% demonstrate partial to complete understanding of the material. Approximately 22% demonstrated little to no understanding of the material and 26% did not take the assessment.

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

In looking at the Math 65 (Fall and Spring of 2014/2015) results, the levels of comprehension for the SLOs were fairly consistent from semester to semester. Approximately 40% of our students scored the highest rating (Complete understanding of the material) for: SLOs related to Linear Equations and Representations and Solving a Polynomial Equation by Factoring. However approximately 25% on average scored the highest rating (Complete understanding) of the SLO related to Modeling.

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.

We chose a textbook which emphasized modeling and perhaps handouts or other supplemental material could be helpful in solidifying the understanding of this modeling SLO. Making the supplemental material available on Blackboard to all Math faculty (including adjuncts) and reinforcing these concepts in our ILC labs will hopefully improve the scores in this area. We need to educate all faculty about incorporating modeling in a richer way into the classroom and assignments.

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.

Not applicable.

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*.)

In general the success rates for Face to Face sections are higher than Distance Education sections. This continues to concern the Math department and we have faculty involved with the DE committee and faculty regularly attend state-wide conferences to learn about ways to close the gap. We would like to continue to explore professional development opportunities for faculty teaching hybrid courses.

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

If yes, please explain.

We need additional and sustainable funding for the Open Math lab. We used to have F hours to help fund additional faculty working in the lab (during peak hours, evenings, and Saturdays.) We have repeatedly discussed and captured in Program review the need for additional support through Instructional Assistants in the Open Math lab (similar to the IA's in the English department lab hours.) A formal request through the Classified position process was not done due to the lack of funding for such a position. Restore the Open Math lab coordinator's reassigned time to 3 units from the current 1 unit.

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

For modes of delivery, currently we have increased the number of hybrid course offerings. We have some instructors offering "flipped classrooms" as well. Some instructors are also employing more social media into the classroom. These offerings are in support of the stated mission of the math department to offer different modes of learning to better meet the needs of our students. This also allows greater flexibility in scheduling for students and potentially improves student retention for our courses.

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

   If yes, complete the table below:

Estimated number of courses for which SLOs will be written or revised:	**0** (Currently most SLOs are assessed as part of the final exam and perhaps we should discuss revising this as many students are not being assessed if they withdraw or drop from the course.)

Estimated number of SAOs that will be written or revised:	N/A

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

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	All will participate based on our new contract.
Spring 2016	All will participate based on our new contract.