

2010-11 Academic Program Update

College Yuba College

Program Mathematics

Date January 21, 2011

Year of Last Program Review
2007-2008

Year of Next Program Review
2011-2012

Program Overview

Based upon the data provided, briefly explain the current status of the program.

Based on a study of the FTEF, FTES, WSCH and avgWSCH data that was available via the Yuba College Planning, Research and Student Success portal site, the current status of the program is **maintaining**. In comparison with the 2008-2009 academic year, all statistics show a decline, and the declines for FTES, WSCH and avgWSCH are substantial: -8.9%, -8.9% and -7.9%, respectively. Were it not for the general decline in enrollments mandated by the difficult economic situation in the past year, such declines would be alarming. However, this decline mirrors the overall change in enrollments for the college, and in comparison to the 5-year average for these statistics, the 2009-2010 mathematics data show relative growth above the 5-year average including a 6.7% increase in both FTES and WSCH.

Explain significant changes in the program since the last program review or annual update.

- The first section of Math 52A was scheduled in Fall 2009 with a subsequent section of Math 52B scheduled in Spring 2010. Both classes are very popular with students, particularly those who have required instruction in mathematics Basic Skills.
- Due to the 2009-2010 budget crisis, the plan to offer two sections of Math 50B in Spring 2010 (following the two sections of Math 50A in Fall 2009) was cut to just one class. To help compensate the many students who were then "stranded" without a path to higher-level courses, the mathematics instructor for Math 50B in Spring 2010 was granted a larger room so that he could add above the course cap.
- Math 1A (First Semester Calculus) was taught in Fall 2009 for the first time since its increase from 4 to 5 units. The course is still very popular with students with a significant number of waitlisted students each semester.
- Faculty reached an agreement with the appropriate deans on class sizes that support a positive learning environment. The revised class sizes are:
 - Math 110 and Math 111 -- 40 students
 - Math 50 and Math 52 --- 45 students
 - Math 50A, Math 50B, Math 52A and Math 52B--- 30 students
 - All other Math classes --- 45 students.

While these are higher numbers than those proposed by the faculty, the mathematics faculty agreed to this proposal with the understanding that it would be reviewed at a later date.

At the Marysville Campus:

- Faculty continued to expand the use of web-enhanced course materials and the use of technology-enhanced lectures. In review, the instructors who bundled their Math 110 textbooks with a student license for MyMathLab, an online resource available to students, agreed that the technology is not yet evolved enough to be beneficial for widespread adoption of the use of this technology for this BSI-level course. These instructors used the program as an additional resource for students and, in some sections, required their students to submit homework online. In this academic year, MyMathLab is being tested in a similar way for a few sections of Math 111.
- Faculty continued to participate in the Measure J Building 500/ 700 committee to try to determine a future location which will provide adequate space for the Hard Math Café and the MESA Center. Additionally, Faculty met with members of the Measure J Building 500/700 committee to try to ensure that the remodel will provide needed classrooms for Mathematics instruction. Apparently there are no Measure J funds available for these needs, but an option has been created that will be sent to bid separately in hopes adequate funds can be raised.
- Faculty have secured Basic Skills Initiative (BSI) funds for installation of 4 computers and internet connectivity in the Hard Math Café Annex (HMCA), but in the end, Yuba College IT provided 3 additional computers at no charge and most recently a Wi-Fi hotspot in the HMCA to support the increased use of online homework in our mathematics classes.
- Faculty have also secured BSI funds to support a limited amount of student tutors in the HMCA to supplement the schedule of hours donated by full-time faculty who hold office hours in the HMCA for walk-in mathematics tutoring of all students.
- Math 51 was added to the General Education requirements for the AA degree.

Briefly explain significant changes expected during the upcoming year.

- Two faculty, including the department chair, will be retiring at the end of the current academic year. Two faculty positions were approved by the Board of Trustees for replacement so it is hoped that the overall impact to students can be minimized with respect to the number of full-time faculty.
- In addition, John Steverson is expected to be on 60% release time as the new President of the Yuba College Academic Senate beginning in the 2011-2012 academic year, and this will put greater strains on scheduling and staffing.
- Faculty will continue to meet with members of the Measure J Building 500/700 committee and work to obtain adequate space for the Hard Math Café and MESA Center, as well as to obtain classrooms primarily dedicated to the teaching of Mathematics. New classroom space is contingent on finding appropriate locations to move the existing MESA Center and HMC.
- Faculty will continue to work with Basic Skills Initiative (BSI) funds for installation of at least one more computer in the Hard Math Café Annex. A larger number of computers will be needed if the HMC is relocated to a larger space as is hoped.
- Faculty will be working to implement SLO assessment for the following classes in the 2010-2011 academic year: in Fall 2010: Math 50 and Math 2A, and in Spring 2011: Math 52, Math 3 and Math 9.

Student Learning Outcomes

Please list which courses have been assessed since the program review or last update.

Four courses were assessed with respect to the new SLOs since the last program review. Two were assessed in the skeletal Summer 2010 term: Math 21 and Math 1B. The other two courses, Math 50 and Math 2A were assessed in the Fall 2010 term.

Please summarize the assessment results.

Term	Course	SLO	Correct	Incorrect	Blank	% Correct
Summer '10	Math 21	Graphical knowledge of trig. functions	31	7	0	82%
		Analytical knowledge of trig functions	30	8	0	79%
Summer '10	Math 1B	Calculate derivatives and integrals	20	3	0	87%
		Apply appropriate integration technique	22	1	0	96%
		Determine convergence of a series	21	2	0	91%
Fall 2010	Math 50	Derive the equation of a line.	128	155	1	45%
		Factor a polynomial	103	181	0	36%
Fall 2010	Math 2A	Compute partial deriv. & gradients	15	6	1	68%
		Evaluate double and triple integrals	19	2	1	86%

Please summarize any planned improvement/changes resulting from the assessment results.

Based on the initial assessment of just two classes, no changes are planned in the courses due to the outcomes of these SLO assessments. The faculty continues to work with the college and district mathematics faculty and the Academic Senates to improve the SLO assessment reporting process.

Current Recommendations

Recommendations	Plan of Action to Address Recommendation	Budgetary Impact	Timeline for Implementation	Responsible Person/Dept.
Curriculum/SLO: (1) Assess SLOs. (2) Provide more paid office hours for adjunct faculty in math.	(1) Math 52, 3 and 9 are scheduled for Spring 2011. (2) None.	(1) None (2) Minimal	(1) Ongoing (2) None identified	(1) Dept. Chair (2) MESH Dean
Staffing: (1) There is a need to provide at least 20% release time for a department chair/math coordinator to perform the duties of a chair. At the Clear Lake campus: (1) Another full-time math faculty member is needed.	(1) None. (1) The position will be requested for prioritization when new staffing positions open.	(1) ~ \$7,000 (1) ~ \$100,000 including benefits	(1) None identified (1) 2012-2013 at the earliest	(1) Dept. Chair / MESH Dean (1) Dept. Chair / Lake and MESH Deans
Equipment/Technology: At the Marysville Campus: (1) Room 1902 (the ITV courses) continues to need better equipment for math lectures.	(1) None.	(1) Unknown	(1) None identified	(1) Dept. Chair / MESH and Distributed Ed. Deans

Recommendations	Plan of Action to Address Recommendation	Budgetary Impact	Timeline for Implementation	Responsible Person/Dept.
<p>Facilities:</p> <p>At the Marysville Campus:</p> <p>(1) There is an acute need for modern classrooms and labs.</p> <p>(2) There is a need for larger faculty offices (full-time and adjunct). A shared office is needed for the adjunct to meet privately with students during their office hours.</p> <p>(3) Larger facilities are needed to house both the Hard Math Café and the MESA Center.</p> <p>At the Clear Lake Campus:</p> <p>(1) A room is needed for faculty to host drop-in math help (similar to the Hard Math Café at the Marysville Campus.)</p>	<p>(1) Plans are in place to recover two classrooms in building 700, but currently there is no funding for this option from Measure J. YC administration is working to find funding.</p> <p>(2) None.</p> <p>(3) Plans are in place to relocate within building 700, but currently there is no funding for this option from Measure J. YC administration is working to find funding.</p> <p>(1) None.</p>	<p>(1) Unknown</p> <p>(2) Unknown</p> <p>(3) Unknown</p> <p>(1) Unknown</p>	<p>(1) None identified</p> <p>(2) None identified</p> <p>(3) None identified</p> <p>(1) None identified</p>	<p>(1) MESH Dean/ YC Administration</p> <p>(2) MESH Dean</p> <p>(3) MESH Dean/ YC Administration</p> <p>(1) Lake and MESH Deans</p>

Previous Recommendations

Recommendations	Status and Date	What was the impact on student learning of meeting or not meeting this recommendation?
<p>Curriculum/SLO:</p> <ul style="list-style-type: none"> (1) Set reasonable class cap sizes on math. (2) Provide more paid office hours for adjunct faculty in math. (3) Increase the availability of computer lab space to support the increasing use of MyMathLab and other internet-enhanced courses. 	<ul style="list-style-type: none"> (1) New caps adopted Fall 2009. (2) No progress. (3) Increased from 0 to 4 computers with internet and WiFi access (12/2010). 	<ul style="list-style-type: none"> (1) More individualized help is now possible for our remedial mathematics classes. (2) Student tutors are used with available BSI funds, but student tutors are not as experienced as faculty, and many students in classes taught by adjuncts do not have regular access to their instructor outside of the classroom. (3) The new computers in the HMCA are used every day for online math homework and tutoring.
<p>Staffing:</p> <p>At both campuses:</p> <ul style="list-style-type: none"> (1) There is need to provide at least 20% release time or a commensurate stipend for each of two math coordinators. (2) There is a need to provide release time for a department chair to perform the duties of a chair. <p>At the Clear Lake campus:</p> <ul style="list-style-type: none"> (1) Another full-time math faculty member is needed. One or more adjunct could be added instead, but it is hard to find qualified adjunct in the Clear Lake area. 	<p>At both campuses:</p> <ul style="list-style-type: none"> (1) No progress. (2) No progress. <p>At Clear Lake campus:</p> <ul style="list-style-type: none"> (1) No progress. 	<ul style="list-style-type: none"> (1) and (2) Since there are a fixed number of hours in the day, either administrative or student contact hours or other instructional duties take a back seat. (1) The slate of mathematics courses offered to students is further limited at this site.

Recommendations	Status and Date	What was the impact on student learning of meeting or not meeting this recommendation?
<p>Facilities:</p> <p>At the Marysville Campus:</p> <ul style="list-style-type: none"> (1) There is an acute need for modern classrooms and labs. (2) There is a need for larger faculty offices (full-time and adjunct). A shared office is needed for the adjunct to meet privately with students during their office hours. (3) Larger facilities are needed to house both the Hard Math Café and the MESA Center. <p>At the Clear Lake Campus:</p> <ul style="list-style-type: none"> (1) A room is needed for faculty to host drop-in math help (similar to the Hard Math Café at the Marysville Campus.) 	<p>At Marysville Campus:</p> <ul style="list-style-type: none"> (1) Plans are in place to recover two classrooms in building 700, but currently there is no funding for this option from Measure J. YC administration is working to find funding. (2) No progress. (3) Plans are in place to expand the HMCA and MESA Center, but currently there is no funding for this option from Measure J. YC administration is working to find funding. <p>At Clear Lake Campus:</p> <ul style="list-style-type: none"> (1) No progress. 	<p>At the Marysville Campus:</p> <ul style="list-style-type: none"> (1) Currently, many of the Math classes are held in the 3000 building (the swing space), and some will now be unavailable for Fall 2011. This may cause numerous schedule changes and possible class cancelations for Fall 2011. The 3000 rooms are not conveniently located to the Math faculty offices or to any of the Math support resources. Many of the lower level classes (Math 110, Math 111, Math 50, and Math 52) are taught in these facilities. These students typically will not walk all the way across campus to ask a question of a faculty member or to take advantage of the drop-in for tutoring available in the Hard Math Café Annex. Classrooms should be near the faculty offices and the Hard Math Café (Annex.). (2) Students of adjunct faculty have little way of speaking with their professors privately. (3) Access to walk-in mathematics tutoring and online mathematics tools are limited. <p>At the Clear Lake Campus:</p> <ul style="list-style-type: none"> (1) Access to walk-in mathematics tutoring and online mathematics tools are limited.