

*The Program Review process should serve as a mechanism for the assessment of performance that recognizes and acknowledges good performance and academic excellence, improves the quality of instruction and services, updates programs and services, and fosters self-renewal and self-study. Further, it should provide for the identification of weak performance and assist programs in achieving needed improvement. Finally, program review should be seen as a component of campus planning that will not only lead to better utilization of existing resources, but also lead to increased quality of instruction and service. A major function of program review should be to monitor and pursue the congruence between the goals and priorities of the college and the actual practices in the program or service.*

~Academic Senate for California Community Colleges

## **INSTRUCTIONS**

This *Annual Update for Program Review and Planning* is due each year that your *Comprehensive Program Review and Planning* report is not due.

(For information about program review cycles, see Instructional and Student Services program review rotation schedules posted online in their respective sections of the program review webpage: [http://collegeofsanmateo.edu/prie/program\\_review/program\\_review.php](http://collegeofsanmateo.edu/prie/program_review/program_review.php))

### **Resources for Supporting Documentation:**

A listing of resources and documents which provide data or information for each section is included at the end of this document, after the final signature page. These resources are posted online and their URLs are listed at the end of this document.

(You may delete this section, when you submit your final program review.)

### **Next Steps:**

All *Annual* and *Comprehensive Program Review and Planning* reports are due March 25, 2010. This date is aligned with CSM's *Integrated Planning Calendar*.  
(See: [http://collegeofsanmateo.edu/prie/institutional\\_documents.php](http://collegeofsanmateo.edu/prie/institutional_documents.php).)

Upon its completion, please email this *Program Review and Planning* report to the Vice President of Instruction, the Vice President of Student Services, the appropriate division dean, the CSM Academic Senate President, and the Dean of Planning, Research, and Institutional Effectiveness (PRIE).

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## DEPARTMENT OR PROGRAM: Mathematics

### DIVISION: Math-Science

1. **BRIEF DESCRIPTION OF PROGRAM:** The Mathematics Program is comprised of three types of courses; A. Non-transferable courses, including basic skills, such as Math 811, 802, 110, 111, 112, 115, 120, 122, 123; B. Transferable courses for Liberal Arts and Business Majors, such as Math 125, 145, 147, 200, 241, 242; C. Transferable courses for Science, Engineering, and Math Majors, such as 130, 222, 251, 252, 268, 253, 270, 275.
2. Based on the elements in your *Core Program and Student Success Indicators* (provided by PRIE for each program) and the goals stated in your most recent Program Review, please identify any key successes and challenges.

Challenge: Because of the loss of our MRC (Math Resource Center) coordinator (Caryn Goldman), it has been more difficult to keep the Math Resource Center running smoothly. To fill in the gap we have had to assign more faculty lab load in the MRC.

Success and Subsequent Challenges: Since more and more students are using our Math Resource Center, it gets very crowded during busy hours and we would like to have a larger space for the center. Additionally, our Math Resource Center needs more student tutors during peak hours. We need more funding for tutors.

Success and Subsequent Challenges: The number of students taking Math courses has steadily increased over the past few years, but we still have fewer full-timers than 5 years ago, and we may be losing some full-timers in the near future due to retirement. So, we need more full-time faculty.

Challenge: Computer Classrooms. We need to update the computers in our Math Stat Classroom, and we would like to have a classroom with 36 computers so that more instructors could do work with computers in their classes. Funds are needed.

Challenge: We would like to expand on the number of online courses that we offer (presently only Math 110 and Math 120 are offered online). Constraints on sections offered have slowed our progress in this area. It is difficult to "risk" such courses in the current environment.

Challenge: We would like to bring back our accelerated math courses, where Math 110 (Elementary Algebra) and Math 120 (Intermediate algebra) are linked together, and Math 130 (Trigonometry) and Math 222 (Precalculus) are linked together, and the two courses could be taken by the same student all in one semester. Again, in the current environment we cannot "risk" these offerings as they do not fill as easily as single courses.

Success: Professor Michael Burke is successfully running our new Math 147 course, Mathematics and Global Issues, running about 40 in his class.

Success: Professor Lena Feinmann has successfully run our new Math 802 course (PreAlgebra) for several semesters. The numbers are increasing.

3. Are you on track for meeting the goals/targets that your program identified in its most recent Program Review? If not, please explain possible reasons why. If needed, update your goal/targets based on these reasons.

As previously stated, it has been difficult to staff and supervise the Math Resource Center adequately without our former coordinator, Caryn Goldman. Without adequate full-time Mathematics faculty, it has been more difficult to do committee work and to properly staff our classes and the Math Resource Center. And, with the current constraints we have not been able to expand online offerings.

4. Have you identified any new goals or projects for the program to focus on during this next year? Please explain (grants, stipends, initiatives, etc.).

Lena Feinman is working with a BSI (Basic Skills Initiative) grant to develop structure for supplemental instruction in mathematics. If sufficient funding is found, the plan is to implement the structure in Fall of 2010.

Lena Feinman, Olga Zemsikova, and Cheryl Gregory are working with a trustees grant plan and run one experimental cycle of an intersession math boost program, similar to the Canada Math Jam. They are searching for funding should the program prove as successful as they anticipate.

5. Are there any critical issues you expect to face in the coming year? How will you address those challenges?

It has been difficult to staff the Math Resource Center adequately without our former coordinator, Caryn Goldman. Without adequate full-time Mathematics faculty, it has been more difficult to do committee work and to properly staff our classes and the Math Resource Center. Since we are expecting some retirements in the very near future, it is imperative that we hire more full-time faculty. In addition, the district will likely be saving money, with the new full-time hire very likely to be at a lower salary schedule than the retiring full-time faculty member.

**6. STUDENT LEARNING OUTCOMES (SLOs) AND ASSESSMENT FOCUS FOR THIS YEAR:**

- a. Academic areas: Identify at least one course SLO on which to focus. Describe the assessment strategies you will use and your method of reflection and documentation for this cycle.

For Spring 2010 thru Spring 2011 the planned activities are:

Math 147 - being taught for the first time SP 2010. Data collected through evaluation of papers and exams will be used to assess the SLOs for the course.

Math 222 - assessment of SLOs via disparate finals has been completed. Jay Lehmann will develop a "common core final" for implementation and data collection during Fall 2010.

Math 242 - data collection during spring 2010 will be combined with data collected during Fall 2009 for analysis over the summer.

Math 251 - a "common core final" developed during Fall 2009 will be used to collect data for analysis.

Math 252 - Data collected during Fall 2009 will be compiled, discussed, and recommendations forwarded to all calculus faculty.

Math 811 - a "common core final" developed during 2009 will be used to collect data for analysis.

For all courses listed above, multiple SLOs are under evaluation. Discussion of results occurs among the major stakeholders in each course at multiple meetings and among the math faculty at large during flex activities at the start of each semester.

The department has developed a six year cycle for formally collecting data on a subset of our 25 courses so that the faculty are not overwhelmed by the process and thus the process become more meaningful and effective.

- b. Student services areas: TBD

N/A

**7. SUMMARY OF RESOURCES NEEDED TO REACH PROGRAM ACTION STEPS**

*(Data resources: Educational Master Plan, 2008, Institutional Priorities, 2008-2011, College Index, 2009-2010, GE-SLOs, SLOs; department records; Core Program and Student Success Indicators; previous Program Review and Planning reports)*

- a. In the matrices below, itemize the resources needed to reach program action steps and describe the expected outcomes for program improvement.\* Specifically, describe the potential outcomes of receiving these resources and the programmatic impact if the requested resources cannot be granted.

\*Note: Whenever possible, requests should stem from assessment of SLOs and the resulting program changes or plans. Ideally, SLOs are assessed, the assessments lead to planning, and the resources requested link directly to those plans.

Full-Time Faculty Positions Requested	Expected Outcomes if Granted and Expected Impact if Not Granted	If applicable, <u>briefly</u> indicate how the requested resources will link to achieving department action steps based on SLO assessment.
One position to begin in Fall 2010	<p>The new faculty person will</p> <ul style="list-style-type: none"> <li>-Increase by one more the number of people in the department who will work on SLOs and assessment. We offer 21 different courses that must be assessed in a repeating cycle.</li> <li>-Increase the number of fine faculty who teach from a perspective of deep involvement with the department and teach a great variety of the Math courses. This should lead to an improvement in the SLOs assessment process and student success and retention rates.</li> <li>-Increase the number of faculty who lend a hand to other department, division, and college work, such as participation in faculty evaluation, revising curriculum outlines (for 21 courses), choosing course textbooks, screening in the hiring process, shared governance, and committee work.</li> </ul> <p>If the new person is not granted, then it will be difficult to increase department efforts in pursuit of SLOs development and assessment, department, division, and college work. Also there will be continue to be 25 adjunct Math faculty each semester who cannot participate fully in the department or in assessment for lack of time and lack of compensation to do so.</p>	<p>The new faculty person will be one more person who will work directly with fellow faculty on SLO development and their assessment.</p>

Classified Positions Requested	Expected Outcomes if Granted and Expected Impact if Not Granted	If applicable, <u>briefly</u> indicate how the requested resources will link to achieving department action steps based on SLO assessment.
Math Resource Center Coordinator	<p>The Math Resource Center (MRC) coordinator which we had last year was able to streamline all the workings of the MRC, including tutoring, scheduling, checking out of math books within the lab, checking to make sure students login and logout of the lab, handle print and copy jobs and their payments, answering the phone in the lab, help proctor makeup exams of instructors, making sure the MRC is properly stocked with necessary equipment, giving instructors midterm and final reports on lab attendance, and making sure the computers in the lab are properly running.</p> <p>If the position is not granted then it means all of the duties listed above would have to be done by instructors and tutors, making them much less effective in performing tutoring within the MRC.</p>	<p>The coordinator would be able to give us data about student attendance and the effectiveness of the tutors, which we can then try to relate to the actual final grade a student earns in his or her math course.</p>

- b. For instructional resources including equipment and materials, please list the exact items you want to acquire and the total costs, including tax, shipping, and handling. Include items used for instruction (such as computers, furniture for labs and centers) and all materials designed for use by students and instructors as a learning resource (such as lab equipment, books, CDs, technology-based materials, educational software, tests, non-printed materials). Add rows to the tables as necessary. If you have questions as to the specificity required, please consult with your division dean. Please list by priority.

Resources Requested	Expected Outcomes if Granted and Expected Impact if Not Granted	If applicable, <u>briefly</u> indicate how the requested resources will link to achieving department action steps based on SLO assessment.
<p><b>Item:</b> Apple MacBook, 13-inch 2.1 GHz Intel core 2 Duo, plus AppleCare Protection Plan  <b>Number:</b> 20  <b>Vendor:</b> Apple  <b>Unit price:</b> \$1457.69  <b>Total Cost:</b> \$29,153.80  <b>Status*:</b> Replacement</p>	<p>The present computers in 16-111 have begun to show their age and are beginning to be troublesome. The ITS people have advised us that they need to be replaced. We have decided on Mac laptops (with 13 in screens) for the following reasons: The Mac laptops are cheaper than the Mac desktops, and the laptops can be folded down flat, allowing students to observe the front of the room for lectures and demonstrations. We</p>	<p>The computers are a key component to students' activities in some math classes, especially statistics; if the computers are not functioning properly then it will be difficult or impossible to assess students' learning.</p>

<p><b>Item:</b> Desktop Computers for BSI Lab (Dell Optiplex 380 DT)  <b>Number:</b> 38  <b>Vendor:</b> Dell  <b>Unit price:</b> \$724.50  <b>Total Cost:</b> \$27,530.94  (NOTE: this cost is for the computers only. Refurbishing costs may be \$100,000-\$200,000)  <b>Status*:</b> New</p> <p><b>Item:</b> Fathom Dynamic Data 10-User Lab, Package ISBN: 978-1-55953-689-9  Bundle: Softcover/CD  <b>Number:</b> 1  <b>Vendor:</b> Fathom  <b>Unit price:</b> \$500.06  <b>Total Cost:</b> \$500.06  <b>Status*:</b> New</p> <p><b>Item:</b> NTSF for MacIntosh  <b>Number:</b> 1  <b>Vendor:</b> Apple  <b>Unit price:</b> \$32.42  <b>Total Cost:</b> \$32.42  <b>Status*:</b> New</p>	<p>have determined that two or three students can see the laptop screen when they are working. We have specified 20 computers because we need 19 computers in 16-111.</p> <p>Computers are useful in helping to increase arithmetic and algebraic skills for students in Math 811, 110, 111, and 112 (i.e. Basic Skills courses). Computers are also helpful in honing skills for Math 120 (Intermediate Algebra) students. There is a need for a second computer lab to aid in teaching Basic Skills mathematics, as the present lab in 16-111 is fully employed in teaching statistics, and is probably not large enough for the estimated demand.</p> <p>Ordering Fathom (a software program used in Statistics classes) will enable us to put Fathom on more computers in the Math Resource Center and on the Mac Cart. Without this package, students will have a harder time working on Fathom because of its limited availability on the computers we presently have.</p> <p>This software makes it easier for the Statistics instructors to work with both students who have PCs and those who have Macs. Without the software the instructors will have the usual PC/Mac hassles that may arise.</p>	<p>SLO assessment can be greatly aided by having students do problems on a computer, since the computer can quickly assign randomly-generated homework assignments, quizzes, and exams, and grade them quickly and accurately, so that instructors can focus their energy on teaching, rather than making, correcting, and recording homework, assignments, quizzes, and exams.</p> <p>If students don't have access to the necessary software programs to do their homework and classwork then it will be difficult to assess students' learning.</p> <p>As there are differences between PCs and Macs, it may be difficult to determine a "level playing field" for all students in assessing their learning outcomes without having this software.</p>
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\*Status = New, Upgrade, Replacement, Maintenance or Repair.

## 8. PROGRAM REVIEW PARTICIPANTS AND SIGNATURES

Date of this *Annual Update for Program Review and Planning* evaluation: March 25, 2010

Please list the department's *Annual Update for Program Review and Planning* report team [as appropriate](#):

Primary program contact person: Melvin Hom

Phone and email address: 650-574-6622; homm@smccd.edu

Full-time faculty: Melvin Hom, Cheryl Gregory, Ken Brown, Harry Nishanian, Bob Hasson

Part-time faculty:

Administrators:

Classified staff:

Students:

Primary Program Contact Person's Signature	Date
Full-time Faculty's Signature	Date
Part-time Faculty's Signature (as appropriate)	Date
Administrator's Signature (as appropriate)	Date
Classified Staff Person's Signature (as appropriate)	Date
Student's Signature (as appropriate)	Date
Dean's Signature	Date

**Annual Program Review  
RESOURCES FOR SUPPORTING DOCUMENTATION**

This section contains a listing of sources for data and key documents referred to in this *Annual Update* along with other resources. Contact information for relevant people is also included.

**Academic Senate**

<http://www.collegeofsanmateo.edu/academicsenate/>

Contact: [csmacademicsenate@smccd.edu](mailto:csmacademicsenate@smccd.edu)

Diana Bennett, President, [bennettd@smccd.edu](mailto:bennettd@smccd.edu), (650) 358-6769

**College Catalogs and College Class Schedules are archived online:**

<http://collegeofsanmateo.edu/schedule/archive.asp>

**Course Outlines are found at:**

<http://collegeofsanmateo.edu/articulation/outlines.asp>

**Committee on Instruction**

<http://www.smccd.net/accounts/csmcoi>

Contact: Laura Demsetz, Chair, [demsetz@smccd.edu](mailto:demsetz@smccd.edu), (650) 574-6617.

**Program Review Resources** (includes forms, data, and completed program reviews for both instructional and student services program review)

*Core Program and Student Success Indicators* (see links for "Quantitative Data for Instructional Programs")

*Distance Education Program Review Data*

*Glossary of Terms for Program Review*

*Listing of Programs Receiving Program Review Data from PRIE*

*Rotation Schedule for Instructional Program Review, 2008-2014*

[http://collegeofsanmateo.edu/prie/program\\_review/program\\_review.php](http://collegeofsanmateo.edu/prie/program_review/program_review.php)

**Office of Planning, Research, and Institutional Effectiveness (PRIE)**

<http://collegeofsanmateo.edu/prie/>

Contact: John Sewart, Dean, [sewart@smccd.edu](mailto:sewart@smccd.edu), (650) 574-6196

Contact: Milla McConnell-Tuite, Coordinator, [mcconnell@smccd.edu](mailto:mcconnell@smccd.edu), (650)574-6699

**At PRIE Website:**

*College Index, 2009-2010*, [http://collegeofsanmateo.edu/prie/institutional\\_documents.php](http://collegeofsanmateo.edu/prie/institutional_documents.php)

*Comprehensive Listing of Indicators and Measures, 2009-2010*

[http://collegeofsanmateo.edu/prie/institutional\\_documents.php](http://collegeofsanmateo.edu/prie/institutional_documents.php)

*Division/Department Workplans, Spring 2009 (only)*

[http://collegeofsanmateo.edu/prie/institutional\\_documents.php](http://collegeofsanmateo.edu/prie/institutional_documents.php)

*Educational Master Plan, 2008*, <http://collegeofsanmateo.edu/prie/emp.php>

*Institutional Priorities, 2008-2011*

[http://collegeofsanmateo.edu/prie/institutional\\_documents.php](http://collegeofsanmateo.edu/prie/institutional_documents.php)

**Student Learning Outcomes (SLOs) website:**

<http://www.collegeofsanmateo.edu/sloac/>

Contact: Frederick Gaines, Interim SLO Coordinator, [gainesf@smccd.edu](mailto:gainesf@smccd.edu), (650)574-6183