

College of San Mateo

2018-19 Instructional Program Review

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Program Name

Please select your program. For CTE programs, use the [2018-19 CTE Instructional Program Review form](#).

Mathematics

Division

Please select your division

Math/Science

Submission Date

Description of Program

File upload

[math.program.review.10.22.18.q1.doc](#)

2a. Describe the results of your previous Program Review's action plan.

If your answer is more than 2000 characters (approximately 300 words), please upload a Word document below (10 MB or less). If you're not sure, please upload your answer. Please upload text only; we cannot ensure that non-text such as images, diagrams, or charts will be retained in the final submission.

We had hoped to have more full-time-hires since the last Program Review, but have not been granted any yet. We were provided with two full-time-temporary faculty for 2018-2019. The department will request four full-time hires in 2019. We wanted to have more accelerated programs at the last Program Review; this came about in large part due to our response to AB705, where many lower-level courses were eliminated and support courses were and are being developed.

2b. Program coherence and effectiveness: Explain any curriculum changes since last program review, including SLO alignments.

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As mentioned earlier, we eliminated Math 811, 802, 110, 111, 112, 122, and 123 (last section fall 2018). Math 242 will become Math 243 (one extra unit to include trigonometry). Math 820 and 890 were added "Just-In-Time" support classes to Math 120 and Math 190, respectively. Development is in progress for support courses for implementation in Fall 2019 for Math 241, 225 and possibly Math 130 and 125. The department is working collaboratively with our sister colleges toward AB705 compliance. We do not have SLO data for these new courses yet; SLO results for upper level courses have been consistently good.

2c. Student success and equity: Discuss what your program has done to address equity gaps between student populations and between modes of delivery (online, hybrid, and face-to-face), describing your successes, works in progress, and/or ongoing challenges.

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We have been able to increase the success rate among African-Americans, from 47.4% in 2015-2016 to 53.3% in 2017-2018. The success rate among Hispanics has risen from 48.4% in 2015-2016 to 50.8% in 2017-2018. The Native American success rate has increased from 33.3% in 2015-2016 to 62.5% in 2017-2018, although in each year we have a small sample size (under 10 each year). The success rate among those with a disability has consistently been about 53% for the past few years, compared to about 60% for those without disability. We hope to work with DRC to help close the gap. Students who were First Generation College students have consistently been about 10% behind Non-first Generation students in terms of success. META and METAS, grand funded Math/Science division programs currently provide support for most of the above mentioned groups, as do many CSM learning communities; the department through the Math Resource Center, plans to work collaboratively with existing support programs to increase student awareness and participation in available support. For online/hybrid courses, we have been able to reach comparable success rates with traditional, face-to-face courses; for Fall 2015-2017, our Math 200 had 51% success rate compared to 53% with the traditional mode; Math 120 during Fall

2015-2017 had a 62% success rate compared to a 60% rate by traditional mode; our Math 110 had a much higher success rate from 2015-2017 (67% by distance versus 45% under traditional mode).

2d. Provide an update on any long-term plans that are still in progress (if applicable).

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We have added a new computer classroom in 18-204, a classroom which fits 40 students with every desk having a computer available and the seats are designed to easily convert to group work. Every student is also equipped with a mini-whiteboard as the instructor deems necessary. We may be asking for another such classroom if there is a need for it. The department request for document cameras in math classrooms has been put on hold until planned campus technology updates occur. The use of whiteboard paint on classroom walls is currently being tested in the old math computer room, 16-111. If the paint is durable under the intense usage it is experiencing, the department will ask to have more math classrooms painted. In the meantime, the department is researching other options, including additional white boards.

3a. Course and program assessment. Discuss the results of your program assessment. Explain any strategies, research, initiatives, curriculum development or other activities intended to improve student learning and promote educational equity in your discipline, either at the course or program level.

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The entire department assessment program needs to be revamped due to curricular changes. We will be assessing the effectiveness of our curricular changes in the next few years as it relates to AB705. The basic intent is the get students to through a transfer level math courses as soon as possible. For upper level courses, we will track how effective our Math 225 (Trig + Precalculus) course is compared to the 2 separate courses Math 130 (Trig) and Math 222 (Precalculus). We will be looking into having our Math 243 replace Math 242 plus the Math 130 (Trig) prerequisite.

3b. General Education / Institutional assessment. Discuss participation in any General Education, Core Competencies, institutional or interdisciplinary assessment activities.

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None

4a. Provide a brief description, including actions, measurable outcomes, and timelines

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In the next few years we will track student success in Math 120, Math 120+, Math 190, and Math 190+ and any other additional "plus" courses. We hope to increase the number of sections of Math 225, and to begin offering Math 243.

4b. What will your program do to increase student success and promote student equity in the next two years? What kind of professional development and institutional support will be engaged and enacted to meet these goals?

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We are increasing the number of "Just-In-Time" courses that we offer, of which presently the greatest amount are matched with Math 120 and Math 190. For professional development, instructors frequently meet together and workshops are held to discuss strategies in teaching the "Just-In-Time" courses. A core of full-time faculty leads will continue to drive this process. As stated above, through the Math Resource Center, the department plans closer collaboration with student support entities currently at CSM.

4c. Describe other professional development activities and institutional support and collaborations that would most effectively ensure that the program achieve its goals and plans.

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Faculty attend conferences and hold meetings with other Math faculty within the district, to address how best to help students succeed in our courses.



The Mathematics Department is comprised of three types of courses:

A. Non-transferable courses: Math 120 and Math 190, with “Just-In-Time” support courses Math 820 and Math 890, respectively, paired with some sections of Math 120 and Math 190

B. Transferable courses for Liberal Arts and Business majors: Math 125, 145, 147, 200, 241, 242

C. Transferable courses for Science, Engineering, and Math majors: Math 130, 222, 225, 251, 252, 253, 268, 270, 275.

The Mathematics Department will be changing Math 242 into Math 243, a 4-unit course which covers Math 242 plus the trigonometry necessary for the course. This will mean that students will no longer need to take the prerequisite Math 130 before taking Math 243.

As a result of AB705, which requires, in part, that “a community college district or college to maximize the probability that the student will enter and complete transfer-level coursework in English and mathematics within a one-year timeframe,” the Mathematics Department has eliminated Math 811, 802, 110, 111, 112, 122, and 123. A student at the lowest level of mathematics entering College of San Mateo will either take Math 120 (with possibly Math 820 for “Just-in-Time” support) or Math 190 (with possibly Math 890 for “Just-In-Time” support).

The program offers two Associate degrees: AS in Mathematics and AS-T in Mathematics.

The department offers student support in the Math Resource Center and in the Learning Center. The Math Resource Center is staffed by student tutors and an Instructional Aid who also conducts Friday workshops on certain math topics as needed.

The department was instrumental in bringing Supplemental Instruction (SI) to CSM; the program, now administered by the Learning Center with collaboration in identification of qualified student leaders, has grown dramatically since its inception. In Fall 2017, we had 15 sections supported by SI leaders, students who attend the class and hold tutorial sessions outside the class: Combined Math 110/120, Math 120 (2 sections), Math 130 (2 sections), Math 190, Math 200 (6 sections), Math 222 (2 sections) and Math 225. In Spring 2018, we had 12 sections supported by SI leaders: 2 sections of MATH 130, MATH 222, MATH 225, MATH 252, MATH 270, Math 268, and 4 sections of Math 200 and Math 190.

During Fall 2018, with the ramp up for AB705, Math sections with an associated “just-in-time” course have embedded student tutors (ET) in the classroom. The goal is two ETs in each classroom. For Fall 2018, due to scheduling conflicts, there are only 14 embedded tutors in nine sections of face-to-face math 120+, 190+, 120 and 190 courses, however,

each section has at least one ET. Supplemental Instruction continues in Fall 2018, now focused on transfer level courses with SI leaders in 12 sections: 2 sections of MATH 252, 2 sections of MATH 251, MATH 275, MATH 130, MATH 222, MATH 268, and 3 sections of Math 200

Many other courses have an attached Supplemental Instructor (a student) who attends the class and holds SI tutorial sessions outside the class.

The Mathematics Department is involved with the CSM Honors Program where students enroll in IDST (Interdisciplinary Studies) courses and participate in Science Honors seminars. One fulltime Math Instructor serves as the Math lead for the Honors Program.

The Mathematics Department supports the goal of the College Mission and Diversity Statements to improve student success and promote academic excellence. The faculty strive to provide a student-centered learning environment that provides equal opportunity to all students. Faculty together with student tutors reflect the diversity of the student body and thus models a positive, collaborative environment amongst a diverse population in support of student learning and academic success. The department supports College Mission and Diversity Statements and Strategic Goals in that they contribute to academic progression and success of students at all levels of Mathematics, from first math course at CSM through transfer degree candidates, and the department continuously works to improve its academic support through the Math Resource Center and Student Tutoring program. The Math Department non-STEM transfer students, and STEM transfer students by working collaboratively with the Learning Center in identifying, hiring, and training student tutors and by aggressively planning and developing materials for new support courses required by AB 705.