

Recommendations of Math Taskforce

Goal 1: To analyze success and completion data in mathematics, including all identified equity gaps, with the goal of increasing student success in mathematics. These analyses should include a broad understanding of how success and equity gaps in mathematics affect student completion rates at the college, including equity gaps.

Recommendation: The taskforce acknowledges there are issues in student success and persistence in the math sequence. Addressing these issues will need to be an ongoing topic of this taskforce as changes mandated by AB 705 will have an impact on the data. Addressing the issues will likely require looking at the success of multiple measure placement, intake changes, changes to student support in the courses, as well as changes in the course sequences and prerequisites/ co-requisites. Continued research and recommendations should be included in the job description for the Math Success and Equity Coordinator to chair this committee to continue to research and make recommendations to address these issues.

Goal 2: To recommend to the department procedures and practices to address directly success and equity gaps, as well as to conform to the direction of AB 705 and guided pathways, including student assessment and placement, to include high school GPA and course success, as well as how to simplify the process for incoming students.

Recommendations: Basic Skills courses

(a) In response to AB 705 much of our pre-requisite structure will need to turn into course advisories. Continued analysis will need to be done on what the optimal advisory placement to increase the students likelihood for success. Once the courses (330 and below) are course advisories instead of prerequisites we should analyze the sequence and determine if changes should be made to increase successes and persistence for the students who choose to take the courses. Currently the recommendation for math 330 and below is to wait until we see the impact of the changes in the degree and transfer level courses.

(b) Implementation of multiple measures assessment doesn't seem to have had the effect desired. More research is needed to determine the best way to advise our students and on if changes needs to be made in the multiple measures assessment process, training to use the process, and/or in the implementation to multiple measures to ensure students are receiving the best recommendations to maximize their likelihood of successful completion.

Recommendation: Non-STEM

- (a) Create a co-requisite course for math 112 (Math 312).** The recommendation of the taskforce will be that students who would have been placed in math 310, 320, or 330 be required to take math 112 with co-requisite. Students who would have been initially placed in math 112 or math 104 and are non-STEM would have the choice of taking math 112 (with or without the co-requisite) or math 11 with the co-requisite.
- (b) Create a co-requisite course for Math 11 (Math 311).** The recommendation of the taskforce is that students who would have placed in 330 or below be required to first take math 112 with co-requisite. Students who would have placed in math 104/112 (or below) would be required to take math 11 with co-requisite if they do not first take math 112/104. In this all students would be eligible to take 11 their first or second semester. If it is determined that AB 705 does not allow us to require students to first take math 112 then it is the recommendation of this course that it remain a course advisory for students who would have been placed in math 330 and below to first take math 112 with co-requisite, but students electing to go straight to math 11 would be required to take it with the co-requisite.
- (c) More clarification is needed to understand how to address the changes required (if any) for Math 12 and Math 55 which are additional non-STEM transfer level courses.** If our understanding is correct and we will not be able to require a pre-requisite course for these courses as well then the recommendation is we consider either increasing the units/ attaching a lab to allow for just in time remediation within the course or the creation of co-requisite courses (depending on the number of sections that are anticipated being offered either option may be beneficially. At the current number of sections of these courses there are not enough sections to make having sections with and without co-requisites work so the current recommendation would be to increase units/ attach a lab to each section of the course to work on the just in time remediation and other skills that would have previously been developed in the prerequisite courses).
- (d) Consideration should be made on how to best utilize support resources like the MAC and embedded tutors/ IA's.** Suggestions may include embedded lab time (in accelerated courses, change in student intake to increase awareness of student support on campus and the importance of using it, study groups/lessons hosted in the MAC, participation in learning communities, ...)

In courses like 11, and 12 it is difficult to find embedded tutors for the courses. Consideration for hiring IA's or para-professionals to be the embedded support for those courses should be made.

Recommendations for STEM

- (a) We recommend creating a co-requisite course for Math 104. Students who would initially have been placed in math 330 and will be STEM majors would be recommended to start in the co-requisite versions.**
- (b) The department recommends adjusting the units of math 2 and 4 to match the current C-ID's for those courses.**
- (c) According to our current understanding of AB 705 we may need to remove prerequisites from other entry level transfer courses (math 2, 4, 51, ...). Since this is still being clarified the taskforce recommends that we continue to discuss what would maximize student success once the requirements are clear. It is our opinion that students who would have been placed in 330 or below should still be recommended to start in math 104 with co-requisite. Other co-requisite courses/ attached labs or increased units may be necessary in these other entry level transfer courses once we understand the requirements of AB 705.**
- (d) Consideration should be made on how to best utilize support resources like the MAC and embedded tutors/ IA's. Suggestions may include embedded lab time (in accelerated courses, change in student intake to increase awareness of student support on campus and the importance of using it, study groups/lessons hosted in the MAC, participation in learning communities, ...)**

Goal 3: To work with the department to accelerate development of a co-requisite model for non-STEM or STEM students, to conform to AB 705 and guided pathways.

Recommendation: The Math Success and Equity coordinator should participate in the pathways discussion.

Goal 4: To recommend practices (outcome assessment) for mathematics to develop a common set of expectations to address the disparate success of students across multiple sections of the same course in the discipline.

Recommendation 1: The department should consider common textbook(s) for courses.

Recommendation 2: Faculty mentoring for faculty teaching a new course. This could be done in faculty groups focused on a particular course – especially for courses with large numbers of sections or low success rates. Faculty teaching courses with co-requisites should also participate in learning communities (as is the practice at all the school models I have seen).

Participation in such activities should be funded if required. The biggest impact on the quality of our education will come from investing in the faculty and tutors who interact with our students.

Recommendation 3: Professional development activities for best practices of teaching math topics should be ongoing, with guest speakers from colleges that have seen great changes in equity and success.

Additional note: The time limit given by AB 705 to implement these many changes is not sufficient. The expectation should be that the department will have to make adjustments after the initial changes. Continued analysis of success in the courses will be needed and adjustments will need to be made.