



Math
AB705
Report
Spring
2019

Introduction

Note, all items with asterisk (*) indicate a link at the end of the document.

In a report conducted by District Institutional Research regarding Fall 2012-2015, the following throughput rates were found:

Students' Initial Math Enrollment	% Completing Transfer-Level Math in 3 Years
Transfer Level (13, 50, 1, 2, 3A)	68.69%
One Level-Below Transfer (202, 203, 248AF)	27.20%
Two Levels Below Transfer (201)	17.06%
Three or More Levels Below Transfer (253)	7.95%
Overall	36.35%

This was the only such research completed about throughputs and was done at the request of a California Acceleration Project workshop held at CoA in Spring 2016.

In a more recent report, the Institutional Research office generated numbers of student enrollment based on High School GPA from Summer 2016 to Fall 2018. The different bands of GPA (cutoffs) are based on the AB705 placement recommendations (see MMAP Tool below) and the report counted the different number of students with different GPA's and last math course taken. Note the first table is for Statistics & Liberal Arts Math (SLAM) and the following table is for Business, Science, Technology, Engineering and Mathematics (BSTEM) Majors:

HS_GPA_SLAM	Pre-Transfer	Math 13	Math 213
>= 3.0	370	429	47
	39%	64%	44%
2.3 - 2.9	380	203	49
	40%	30%	46%
< 2.3	203	40	10
	21%	6%	9%
Total	953	672	106
	100%	100%	100%

HS_GPA_BSTEM	Pre-Transfer	Math 1	Math 50
>= 2.6 with Calc	160	61	34
	17%	37%	28%
>= 2.6 with Pre-Calc	481	78	73
	50%	48%	59%

<=2.6 w/o Pre-Calc	312	24	16
	33%	15%	13%
Total	953	163	123
	100%	100%	100%

For students needing to take SLAM courses for their major, 370 students had over a 3.0 high school GPA and enrolled in a pre-transfer mathematics course. Of students taking calculus in high school and greater than or equal to 2.6 GPA, 255 students did not initially enroll in calculus upon entering College of Alameda. Of these students who took calculus, 160 of them enrolled in a pre-transfer mathematics course. The old assessment process of a placement exam yielded many under-placements, increasing the time it takes for students to complete their mathematics requirements.

The California Community College Chancellor's Office (CCCCO) released an AB705 implementation memorandum in July 2019* indicating that colleges must maximize the likelihood that students complete transfer-level math and English within one year. In December 2019, the CCCCCO released another memorandum* answering frequently asked questions about placement and options for support.



College of Alameda Math department

Curriculum

New courses needed to be developed a year in advance of the first offering. The courses were developed based on research from several other colleges and development began prior to the signing of AB705 into law. For Math 213, we used the course outlines from Los Medanos College and Cuyamaca College. For Math 215 and 216, we used the course outlines from Cuyamaca College. The following indicate the new support courses developed, number of units, semester first offered (1 section of each during first term offered), units of parent course and total units with parent and support course linked.

<i>Course No.</i>	<i>Title</i>	<i>Units</i>	<i>Semester first offered</i>	<i>Units of parent course</i>	<i>Total linked units</i>
213	Support for Statistics	2	Fa 2017	4	6
215	Support for Pre-Calculus	2	Sp 2019	4	6
216	Support for Trigonometry	1	Sp 2019	3	4

The number of sections for Math 13/213 have increased over time. For Spring 2019, there were 6 sections of Math 213 linked with parent Math 13 courses. This represented 50% of total offerings of Math 13; that is, there were 5 sections of Math 13 with a linked co-requisite course and 5 sections of Math 13 without a linked co-requisite course.

Another important note in the table is the total number of units. The primary reason why Math 216 is a 1-unit course and not 1.5 or 2 units is so that part-time faculty can teach both Math 1+215 and Math 50+216 in the same term.

Faculty support



With the monies from BSSOT, many of the departmental faculty attended conferences and trainings. The California Acceleration Project (CAP) has held several conferences and workshops about acceleration and AB705 implementation. The content of the conferences and workshops have focused on models of acceleration, classroom pedagogy including supporting students with low confidence (affective domain) and using

group work to increase student engagement. Faculty have also attended the California Mathematics Council of Community Colleges (CMC³), and have attended talks with similar content. There is an additional conference through the Greater Bay Area Basic Skills Consortium about increasing student engagement.

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In Fall 2016, a Pre-Statistics (Math 206) workgroup was meeting regularly. As the number of sections decreased, the workgroup disbanded. Since Fall 2017, several Communities of Practice have been running. The Math 13+213 workgroup began in Fall 2017 and is now run by Kyla Oh. Students often have low-confidence and negative self-perception with learning mathematics;

these non-cognitive factors are in an Affective Domain of learning. An Affective Domain Community of Practice has been meeting regularly since Fall 2017 and will continue to meet. The content of the meetings included sharing of best practices, assignments, videos, prompts and timelines to help students increase their confidence around learning mathematics. In Spring 2018, another community of practice was developed to increase student engagement with mathematics in class. All participants attempt activities to improve how students engage with mathematics during class. Each attempt includes faculty observers to give feedback and generate new ideas around teaching. The Affective Domain and student engagement communities of practice met up to 4 times a term including meetings involving food. All of the aforementioned communities of practice were local to College of Alameda.

Beginning Fall 2018, there was a districtwide Math 1 and 50 with co-requisite community of practice created. Moving forward, the group will discuss policies, pedagogy and practice.

Study Groups

In partnership with the Learning Resource Center (LRC), many courses have created study groups staffed with tutors. Each partnering course designated an hour each week with a tutor from the LRC. All Math 13+213 courses have used study groups through Fall 2018.



MMAP Tool

In Spring 2018, Deans Amy Lee and Karen Engel in addition to Julie Saechao (SSSP Counselor), Dr. Khalilah Beal (Math) & Dr. Vanson Nguyen (Math) gathered to develop a mobile-accessible tool for placement using High School GPA. Using the Matrix Crosswalk* provided by the RP group and CAP's recommended placement for support courses (which ultimately became the official AB705 recommendations*; see below), the workgroup created an initial tool for counselors to use with students. Initially, the tool was to be developed for students to use themselves and bring the results to a counselor, something similar to a self-guided placement.

AB705 recommended placements for statistics

Placement/Support Recommendations: Statistics

High School Performance	AB 705-Compliant Placement
<p style="text-align: center;">HSGPA \geq 3.0 OR HSGPA \geq 2.3 & \geqC in Precalculus</p>	<p>Transfer-Level Statistics No additional academic or corequisite support required for students</p>
<p style="text-align: center;">HSGPA 2.3–3.0</p>	<p>Transfer-Level Statistics Additional academic and concurrent support recommended for students</p>
<p style="text-align: center;">HSGPA $<$ 2.3</p>	<p>Transfer-Level Statistics Additional academic and concurrent support strongly recommended for students</p>

For students with high school transcripts within 10 years of enrollment at CC, completion of HS Algebra*

AB705 recommended placements for BSTEM

Placement/Support Recommendations: BSTEM Math

High School Performance	AB 705-Compliant Placement
<p style="text-align: center;">HSGPA \geq 3.4 OR HSGPA \geq 2.6 & enrolled in HS Calculus</p>	<p>Transfer-Level Gateway STEM Math No additional academic or concurrent support required for students</p>
<p style="text-align: center;">HSGPA \geq 2.6 or Enrolled in HS Precalculus</p>	<p>Transfer-Level Gateway STEM Math Additional academic and concurrent support recommended for students</p>
<p style="text-align: center;">HSGPA \leq 2.6 and no Precalculus</p>	<p>Transfer-Level Gateway STEM Math Additional academic and concurrent support strongly recommended for students</p>

For students with high school transcripts within 10 years of enrollment at CC and who completed Algebra 2/Intermediate Algebra/Integrative Math 3 or higher in high school*

The group also discussed the possibility of self-reporting GPA for students who did not have access to their high school transcripts. Research suggests that students generally can guess their high school GPA without viewing their transcripts through self-reported data*.

Missed opportunities

Written into the BSSOT grant was a full-time counselor to work with students and faculty. This never came to fruition. Laney College collaborated with counselors to have in-class presentations about various college success topics. Recently, the counseling department at CoA has offered to speak and/or hold college success workshops for classes. This opportunity will be taken advantage of moving forward.

Moving forward

AB705 Implementation and Scale

There is an intended full implementation of AB705 by Fall 2019. For Spring 2019, Math 13 had just under half the sections (5 of 11) linked with a co-requisite support course while Math 50 and Math 1 both had one section with a linked co-requisite support course. In the previous years, Math 1 and Math 50 have been offered 3 sections per regular term. For Spring 2019, Math 1 had 4 offerings while Math 50 continued to have 3 offerings. In Spring 2019, the department piloted a hybrid section of Math 13 with face-to-face Math 213 on the weekend.

Student Support

With new policy for counselors conducting presentations in class, there will be more collaboration between AB705 courses and counseling to improve college success. Further ways to integrate student services and instruction will be investigated.

With the passing of the new parcel tax Measure E, there will be funding for embedded tutors. Other colleges in the district have been using embedded tutors in their classes and will be a starting point for future use of embedded tutors.

Guided Self-Placement tool

A Guided Self-Placement tool can be developed building off of the new High School GPA tool developed in Spring 2018.

Non-credit

Non-credit co-requisite courses have started to become options for colleges. This was mentioned in the second AB705 memorandum released December 2019*. Additionally, schools are investigating non-credit for remedial, non-transfer courses. CoA will investigate non-credit options for students.

Guided Pathways

Guided Pathways integration is underway as much of the research on Guided Pathways and mathematics includes acceleration, support for students and open access to transfer-level courses. CoA's Math department has already created these courses and policies. Further Guided Pathways

integration will include the integration of student services and instruction (see Student Support above).

AB1805

AB1805* requires colleges to make transparent their placement policies and results. In particular, colleges must publish the following

1. The number of students assessed
2. Number of students placed into transfer-level
3. Number of students placed into transfer-level with support
4. Disaggregated placements by ethnicity and gender.



Needs

Institutional Researcher

An Institutional Researcher is needed to gather data about the department on an aggregate level. This data will be important for making adjustments to offerings, pedagogy and policy. The data will also be important for being compliant with AB1805 (see above). The institutional researcher will also be able to support with the development of a Guided Self-Placement tool.

Professional Development Funding

There is a strong need for funding for on-going, continuous Professional Development for faculty support. With the intention to scale, more and more students will be taking transfer-level courses and faculty must be ready to work with them. Professional Development will help develop effective practices and build capacity for long-term transformation of faculty serving new populations of students. Research suggests that one-time workshops are ineffective in changing practice. Funding to pay for yearly conferences like CAP and CMC³ is needed to sustain pedagogical change. Funding to pay for faculty participation in Communities of Practice is also needed to pay faculty for their time, promote innovation and build a culture of collaboration.

*Links:

High School GPA Placement Crosswalk –

http://rpgroup.org/Portals/0/Documents/Projects/MultipleMeasures/GuidesforImplementingMultipleMeasures/MMAP_Matrix_Crosswalk.pdf

AB705 Memorandum July 2019 including recommended placement for support courses –

<https://static1.squarespace.com/static/5a565796692ebefb3ec5526e/t/5b6ccfc46d2a73e48620d759/1533857732982/07.18+AB+705+Implementation+Memorandum.pdf.pdf>

AB705 Memorandum December 2019 –

<https://static1.squarespace.com/static/5a565796692ebefb3ec5526e/t/5c0ec430f950b7d2ad91578e/1544471600924/AA+18-65+AB+705+FAQ+2.0.pdf>

Presentation including research on self-reported data –

https://rpgroup.org/Portals/0/Documents/Projects/MultipleMeasures/Webinars/MMAP_High_School_Transcript_10062017_Final.pdf

AB1805 fact sheet –

https://www.ccleague.org/sites/default/files/pdf/events/ab_1805_irwin_fact_sheet.pdf