

To: Central Texas Mathematics Alignment Taskforce (CTXMAT)

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Re: Renewed Charge for the next two years for CTXMAT

We the undersigned agree that it is essential that our institutions better serve our students by improving alignment of mathematics courses and expectations, particularly at the transition from high school to college mathematics. The Central Texas Mathematics Alignment Taskforce (CTXMAT) has achieved great improvements in mathematics alignment in our region and continued progress is essential for the postsecondary and career success of our students, especially students that have been historically marginalized by our systems – Black, Latino, and students who grow up in poverty.

### **Background**

In 2018, six higher education presidents and seven superintendents created the CTXMAT, a group of PK-12 and higher education mathematics leaders, and charged them with defining the work of math alignment in Central Texas. Since its inception, CTXMAT has made great progress in the three identified strands of work – Teaching and Learning, Alignment, and Policy. CTXMAT has led to deep work in improvement of professional learning and pedagogy; changes in course offerings, advising practices, and

the alignment of mathematics requirements for the highest enrollment programs of study; as well as influencing institutional policies and practices and state level policy.

### Rationale and Goals

Streamlining the mathematics transition from secondary to postsecondary is complex and requires a range of policy and practice changes to fully realize our vision. Through work undertaken in 2020-21, CTXMAT has set the following regional goals to guide future work and measure year over year.

#### **PK-12 Goal: Students take a math course their senior year of high school that best prepares them for a successful transition to higher education/career.**

- All students default to taking a math course all four years of high school.
- Increase the percentage of 12th grade students enrolled in and completing a college-aligned math course.
- Decrease the percentage of 12th grade students in Algebra II or below-grade level courses.
- Course-taking patterns will reflect the range of aligned mathematics pathways.
- Students will be equitably enrolled in advanced mathematics courses by race/ethnicity, gender, and income level.

#### **Higher Education Goal: Higher Ed Institutions ensure students take math courses best aligned to success in their degree/career expectations**

- Increase the percentage of students enrolling and completing a gateway mathematics course (course for college credit required by programs of study) in their first year of college.
- Course-taking patterns in gateway mathematics will reflect the range of mathematics pathways aligned to programs of study.
- Students will be equitably enrolled in gateway mathematics courses by race/ethnicity, gender, and income level.

### Renewed Charge

**We, Central Texas district and institutional leaders, charge CTXMAT to take action on the following recommendations with progress reports in November of each year. We commit the necessary time of our institutional or district staff to support action on the recommendations and measured progress on the above goals.**

### Recommendations for Action

In order to work towards these goals, CTXMAT, including PK-12 and higher education mathematics faculty, counseling and advising, and administrative leaders, recommend the following actions for the next phase of CTXMAT work from June 2021 through November 2022.

1. Institutionalization of an on-going structure to support the aligned teaching and learning of mathematics – content, course sequences, pedagogy.

We recommend that an on-going structure for PK-12 and higher education mathematics collaboration around mathematics pathways be created to address and transform mathematics instruction and educator mindset. The goal of the structure is to continuously improve math course sequencing, pedagogy,

instructional tools, and teacher/faculty supports across PK-12 through higher education to ensure success and seamless transitions throughout a student's entire educational trajectory.

**Membership:** Mathematics district leads, mathematics department chairs, and mathematics faculty representatives from all levels PK-16.

2. Institutionalization of an ongoing structure to support improved policies and practices related to mathematics alignment and transition.

We recommend that a facilitated group of stakeholders, including leaders with decision-making authority in their districts and institutions, be convened on an ongoing basis to develop a cohesive plan to align PK-12 and higher education mathematics pathways. This group works towards regional goals, assessed annually, and determines necessary working groups to make progress each year to improve mathematics alignment and transition from secondary to postsecondary.

**Membership:** Mathematics leads from PK-12 and higher education, counseling and advising leads, cabinet level leaders (include various roles as needed).

3. Development of regional advising guides.

Create advising guides, with a process for annual updates as needed, and corresponding professional development opportunities that communicate regional standards for how to advise students into advanced mathematics courses and make connections between secondary and postsecondary structures that organize math course-taking effectively aligned to programs of study. The advising document is intended to be useful for all stakeholders – students, families, teachers, counselors, and administrators - and could serve as the foundational document to create district-specific advising tools.

4. Consistent collection and sharing of higher education data.

Develop a data collection template for institutions of higher education that tracks progress towards CTXMAT Regional Goals. Commit to using institutional resources to collect and share this data at least annually.

### Supporting Data

Attachment A shows some key research findings from E3 Alliance that both support the need for better math alignment between school districts and higher education institutions and demonstrate progress being made since CTXMAT started. Some summary findings include:

- Students who complete math through Algebra II in high school have just a 1 in 5 chance of gaining any post-secondary credential within six years. A student who completes two years of math beyond Algebra II in high school, typically a college level course, triples their likelihood of receiving a post-secondary credential.
- Over the last decade, far fewer CTX students are taking no math their senior year in high school, and the percent of students taking math beyond Algebra II has almost doubled. Importantly, while the largest changes in course-taking occurred after the state “4x4” policy was implemented, regional coordination ensured that improvements in math course-taking have continued even after less math was required of students based on state policy.
- College Readiness in math has improved for all student populations over the past 3 years.



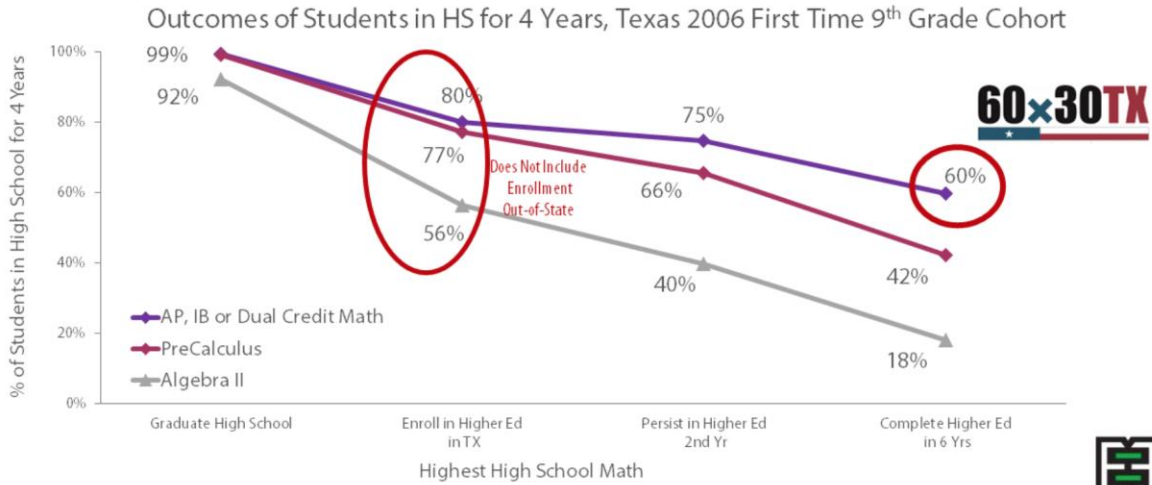
The University of Texas at Austin  
Charles A. Dana Center  
*College of Natural Sciences*



- Students who performed in the highest two quintiles on the fifth grade math STAAR Exam in all student groups are accessing advanced math courses in middle school. The increased access to advanced math for Black students in this cohort has outpaced all other student groups with an increase of 30 percentage points from 2015 to 2019 due to local policy changes around math course-taking. 18 percent more Hispanic students accessed advanced math courses in this same period of time.

**Attachment A: Supporting Data on Math Pathways**

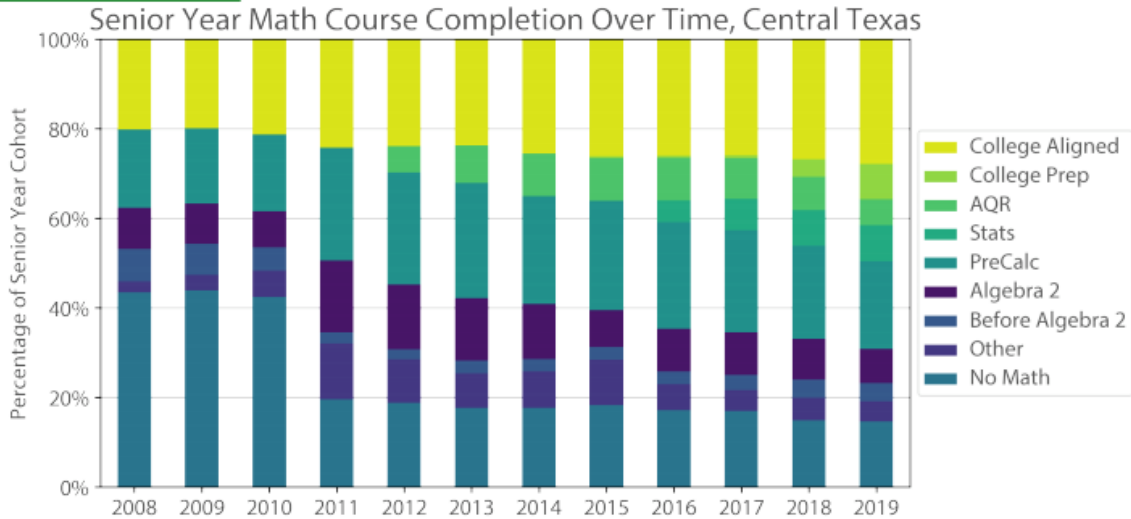
# Gaps in Higher Education Outcome Rates by Highest Math



Source: E<sup>3</sup> Alliance analysis of PEIMS data at the UT Austin Education Research Center



2020 Math Summit



\* Masked due to small cell size (fewer than 5 students)  
 \*\* Masked due to large proportion (fewer than 5 students do NOT have this outcome)  
 \*\*\* Rounded to prevent imputation (actual value is within 5 percentage points)  
 Source: E<sup>3</sup> Alliance analysis of PEIMS data at the UT Austin Education Research Center

\*Before Algebra 2\* includes Geometry, Math Models, Algebraic Reasoning, Strategic Learning, and Algebra 1  
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**% of High School Graduates College Ready in Mathematics,\* 2015–2016, 2018-2019**

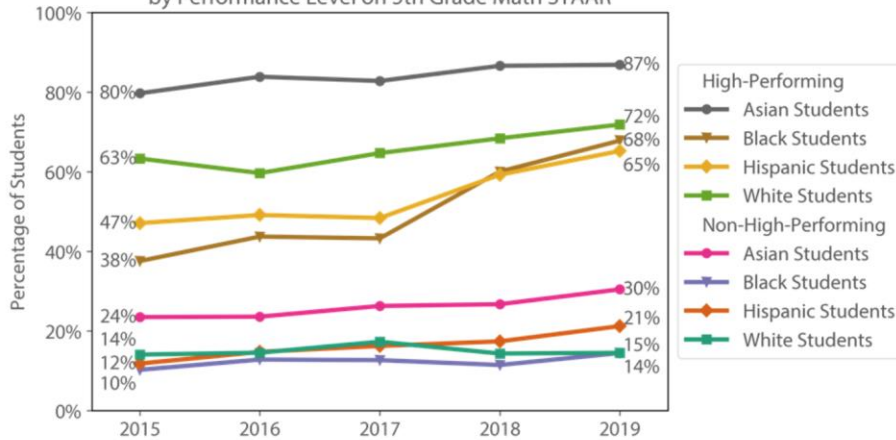
Texas Academic Performance Reports, TEA. TSI Math

<https://tea.texas.gov/texas-schools/accountability/academic-accountability/performance-reporting/texas-academic-performance-reports>

Area	Total		African American		Hispanic		White		Economically Disadvantaged	
	2016	2019	2016	2019	2016	2019	2016	2019	2016	2019
Texas	45%	49%	27%	35%	35%	43%	60%	59%	31%	39%
Region 13	56%	62%	34%	47%	42%	51%	68%	73%	37%	45%

## Increase in Alg 1 Completion Among High and Non-High-Performing Students of Color

Percentage of Central Texas Students Who Completed Algebra 1 by 8th Grade by Performance Level on 5th Grade Math STAAR



Source: E<sup>3</sup> Alliance analysis of PEIMS data at the UT Austin Education Research Center

