The University of Texas at Austin
Charles A. Dana Center

Seizing the Opportunity for College Readiness Through HB 5

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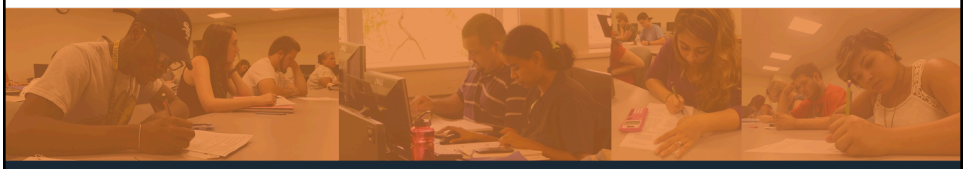


About the Dana Center

Equity — Access — Excellence

2019

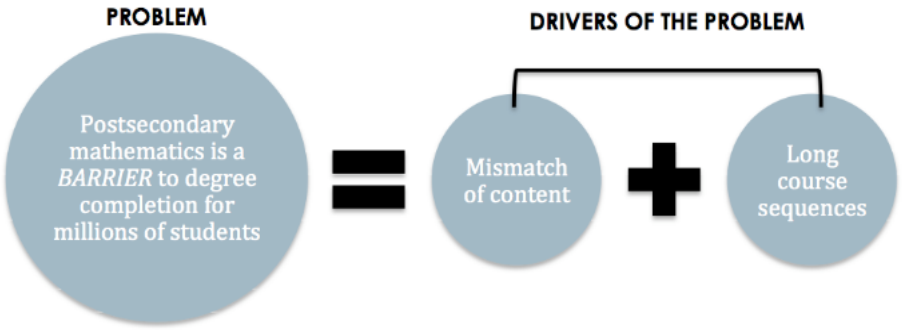
Dana Center by the Numbers

Major grant received from the Bill & Melinda Gates Foundation for our Launch Years initiative, which aims to improve student success in high school mathematics.

Session outcomes

- **Study the requirements and intent for offering a college-prep math course**
- **Develop a process for implementing or improving a transition course**
- **Explore a recommended curriculum framework developed by the Texas Success Center**

Drivers that create barriers for students in college



A growing body of evidence identifies traditional postsecondary mathematics as a primary barrier to degree completion and equitable outcomes for millions of students.

Charles A. Dana Center. (2016). *DCMP Call to action: The case for mathematics pathways.* Austin, TX: Author. https://dcmathpathways.org/sites/default/files/resources/2016-11/The Case for Mathematics Pathways.pdf

HE: House Bill 2223

- **Requires a certain percentage of underprepared students enrolled in developmental education to move into a corequisite model**

  The guiding principle of the corequisite model is to meet students where they are academically and provide them with the content and strategies they need to succeed in their college-level courses.

K-12: House Bill 5

- **Foundation High School Program**
- **Endorsements**
- **EOC in math: Algebra I**
- **Accountability**
  - Includes TSI, Post-secondary credits, industry certifications
- **College Readiness**
  - Districts must partner with an IHE to develop a College Prep Math Course

HB 5 College Prep Math Course

- **Required to be offered within every district**
- **Must be developed in partnership between K12 district and IHE**
- **Designed for seniors who are not deemed college ready**
- **Districts are required to notify students and parents of a student's eligibility**
- **Earns a 4th math credit for students**
- **Successful completion allows students to enter credit bearing math course at partnering college**

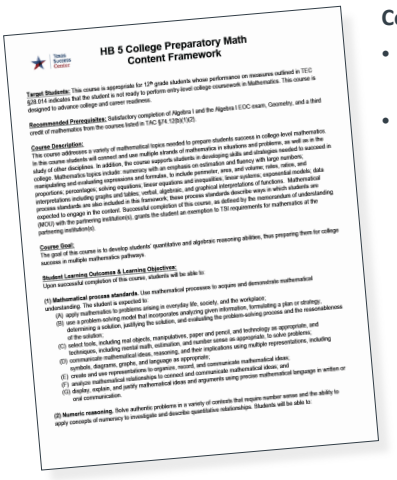
Texas Success Center Leadership

Providing guidance and coherence in implementation

- **Charged statewide mathematics task force of K12 and Higher Education Mathematics leaders with creating a framework for the College Prep math course to prepare students for enrollment in *any* entry-level college math course, *including,* but not limited to, College Algebra**
- **Subjected the framework to public review, comment, and revision**
- **In 2014, released recommendations for districts and institutions of higher education to consider**

Anatomy of the Framework

Understanding the architecture and content



HB 5 College Preparatory Math Content Framework

Target Students: This course is appropriate for 12th grade students whose performance on measures outlined in TEC §39.014 indicates that the student is not ready to perform entry-level college coursework in Mathematics. This course is designed to advance college and career readiness.

Recommended Prerequisites: Satisfactory completion of Algebra I and the Algebra I EOC exam, Geometry, and a third credit of mathematics from the courses listed in TAC §74.12(b)(1)(C).

Course Description:
This course addresses a variety of mathematical topics needed to prepare students success in college level mathematics. In this course students will connect and use multiple strands of mathematics in situations and problems, as well as in the study of other disciplines. In addition, the course supports students in developing skills and strategies needed to succeed in college. Mathematics topics include: numeracy with an emphasis on estimation and fluency with large numbers; manipulating and evaluating expressions and formulas, to include perimeter, area, and volume; rates, ratios, and proportions; percentages, solving equations; linear equations and inequalities; linear systems; exponential models; data interpretations including graphs and tables; verbal, algebraic, and graphical interpretations of functions. Mathematical process standards are also included in this framework; these process standards describe ways in which students are expected to engage in the content. Successful completion of this course, as defined by the memorandum of understanding (MOU) with the partnering institution(s), grants the student an exemption to TSI requirements for mathematics at the partnering institution(s).

Course Goal:
The goal of this course is to develop students' quantitative and algebraic reasoning abilities, thus preparing them for college success in multiple mathematics pathways.

Student Learning Outcomes & Learning Objectives:
Upon successful completion of this course, students will be able to:

(1) **Mathematical process standards.** Use mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
(A) apply mathematics to problems arising in everyday life, society, and the workplace;
(B) use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;
(C) select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
(D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
(E) create and use representations to organize, record, and communicate mathematical ideas;
(F) analyze mathematical relationships to connect and communicate mathematical ideas; and
(G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

(2) **Numeric reasoning.** Solve authentic problems in a variety of contexts that require number sense and the ability to apply concepts of numeracy to investigate and describe quantitative relationships. Students will be able to:

College Prep Math Framework

- Organized around student learning goals and objectives
- Reflects modern mathematics
  - Applying mathematical processes
  - Numeric reasoning
  - Proportional reasoning
  - Algebraic reasoning
  - Probabilistic reasoning
  - Quantitative reasoning

Social Emotional and Academic Development (SEAD)

"Research shows that one of the biggest predictors of a student's success in mathematics is his or her degree of Productive Persistence, a combination of learning mindsets and skills."

A Mind at Work: Maximizing the Relationship Between Mindset and Student Success,
Center for Community College Student Engagement, 2019

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