

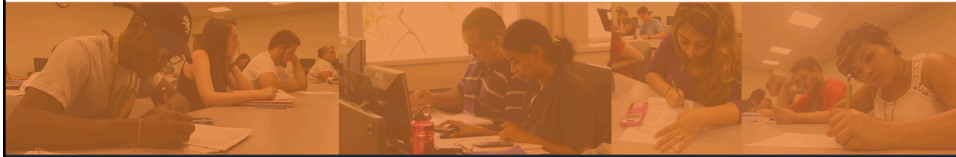


Transforming Secondary Mathematics Education: Relevant Mathematics at the Right Time for Each Student

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About the Dana Center

— Equity — Access — Excellence —

2019



Dana Center by the Numbers

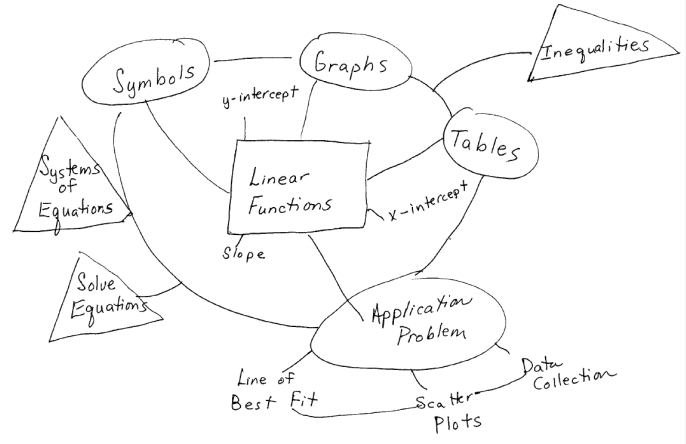


Major grant received from the Bill & Melinda Gates Foundation for our **Launch Years initiative**, which aims to improve student success in high school mathematics.

Agenda

- **Why the “legacy” Algebra II course?**
- **What course, if not the “legacy” Algebra II?**

Concept Mapping



What would a concept map for “legacy” Algebra II look like?

Compare Your Concept Maps

- What do your concept maps have in common?
- What might account for the similarities?
- How are your concept maps different?
- What might account for these differences?

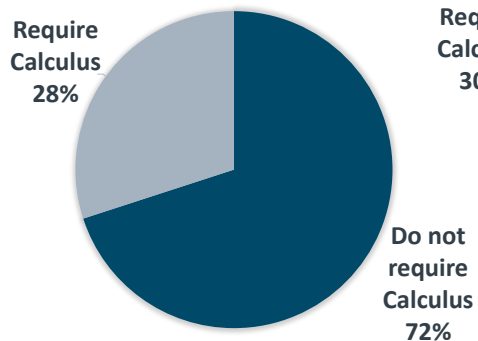
Why the “Legacy” Algebra II Course?

Higher education institutions were focused on the pathway to calculus, so . . .

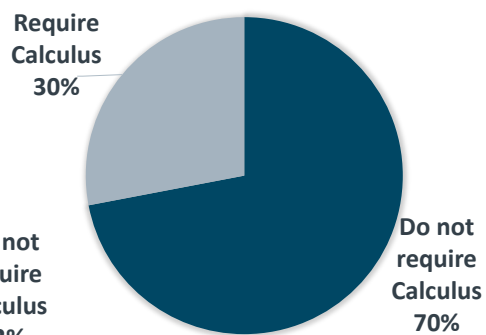
K-12 systems have elevated algebra-intensive pathways.

Alignment – College Algebra and Calculus

2-YEAR COLLEGE STUDENT ENROLLMENT
INTO PROGRAMS OF STUDY



4-YEAR COLLEGE STUDENT ENROLLMENT
INTO PROGRAMS OF STUDY



Source: Chen & Soldner, 2013

The Move to Mathematics Pathways

- In 2015, the MAA, along with four major mathematical professional associations, called for multiple mathematics pathways that are aligned to fields of study.
- Some colleges and universities have begun to respond by implementing math pathways, such as quantitative reasoning, statistics, technical mathematics (for certificate programs), and a redesigned algebraic-intensive/or Calculus pathway.

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

Modernizing Mathematics Pathways

“For students majoring in programs such as social or behavioral sciences, the most important mathematics is statistics, not algebra. For liberal arts students, who typically need to take one core math course to graduate in their majors, quantitative reasoning is likely to be more relevant to their future lives and careers.”

Kazis, R. & Cullinane, J. (2015). *Modernizing Mathematics Pathways at Texas Universities: Insights from the Dana Center Mathematics Pathways Transfer Champions*. Austin, TX: The Charles A. Dana Center at The University of Texas at Austin. [https://dcmathpathways.org/sites/default/files/resources/2017-05/Modernizing Mathematic Pathways at Texas Universities_May 25.pdf](https://dcmathpathways.org/sites/default/files/resources/2017-05/Modernizing%20Mathematic%20Pathways%20at%20Texas%20Universities_May%2025.pdf)

Implications for K-12

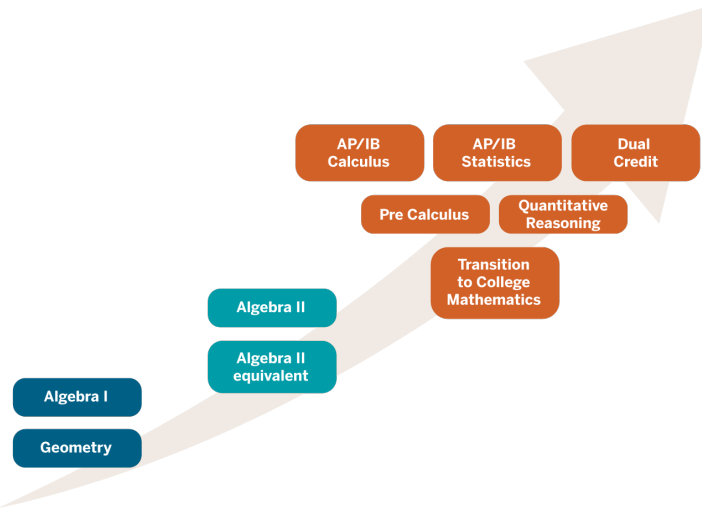
What math is right for students in high school?

As colleges expand to include alternatives to College Algebra for initial college credit bearing courses, high school must broaden the pathways they offer as preparation.

College AND Career Ready

As students decide on a pathway in high school, they should consider that a majority of careers will require some sort of post-secondary education. Rigorous mathematics is not reserved for college bound students.

Readiness for Mathematics Pathways



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