



Math Reform Update

Daniel Archer

Vice President for Academic Affairs

September 15, 2023

Kansas Board of Regents
Building a Future for Kansas Families, Businesses and the Economy



1. Welcome and Introductions	
• 2:00-2:01	Daniel Archer, KBOR
2. Kansas Overview: Math Pathways, Corequisite Remediation, & Course Placement	
• 2:01-2:20	Daniel Archer, KBOR
3. Questions About Math Reform KBOR	
• 2:20-2:40	Daniel Archer, KBOR
4. Georgia Overview: Coreq & Course Placement	
• 2:40-3:00	Jonathan Hull, USG
5. Georgia Questions	
• 3:00-3:10	Jonathan Hull, USG
6. Breakout	
• 3:10-3:30	Breakout by Institutional Peers <ul style="list-style-type: none">• What changes will your institutions need to make to implement math pathways by Fall 2026?• What challenges do you envision with implementing math pathways?
7. Report Out	
• 3:30-3:50	
8. Wrap Up	Daniel Archer, KBOR
• 3:50-4:00	



Math Reform

Math Reform Wave

Math reform has been one of the most significant common undergraduate level changes in higher education

Future Council Higher Ed

#1 and #2 recommendations were corequisite and math pathways.



KBOR Strategic Plan: Building a Future

Implement proven practices that remove barriers and advance access, affordability, success, & completion.

Council of Presidents

Expressed strong interest in math reform.



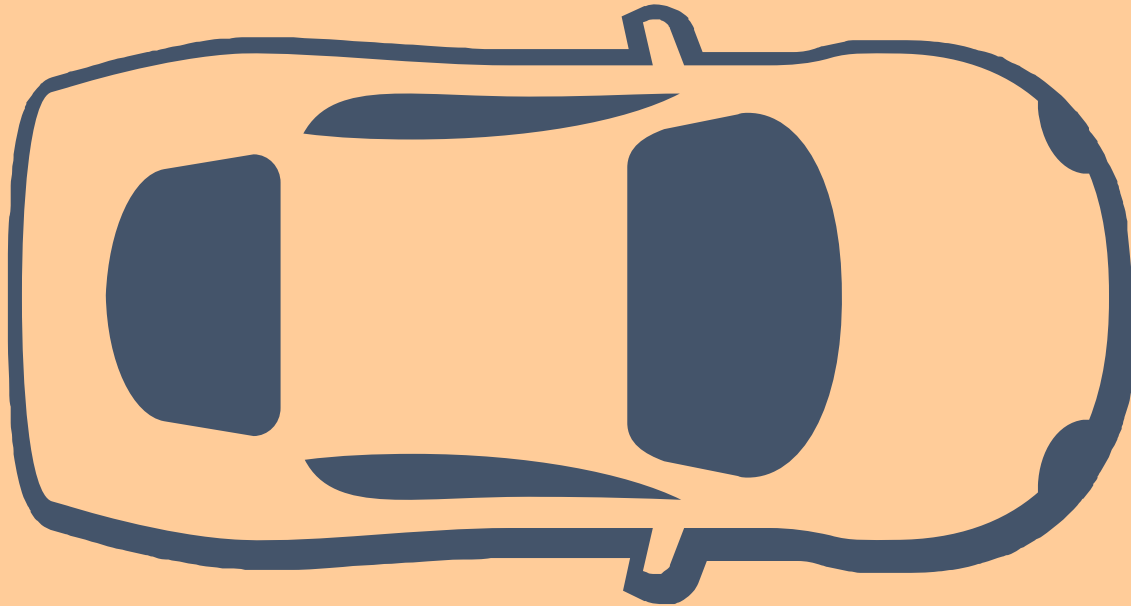


Math Pathways





College Algebra

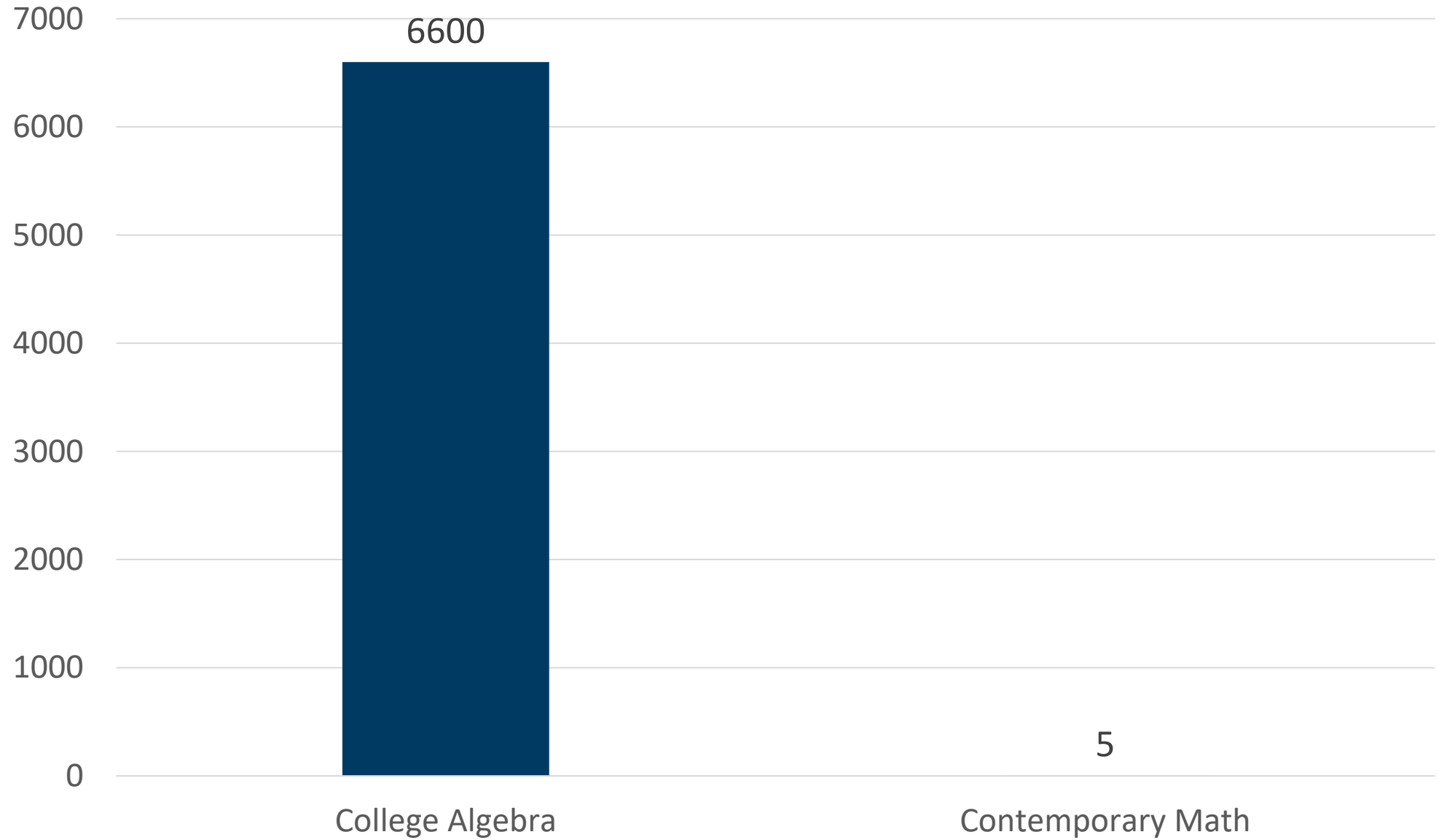


Most Majors

16,761 students enrolled in College Algebra in AY 21 at Kansas Public Colleges & Universities.



AY 22 Concurrent Enrollment: College Algebra Versus Contemporary Math





Background

1. College Algebra was created to prepare students for Calculus.



Who Needs It

1. Today's Reality:
Only 20% of Majors require calculus



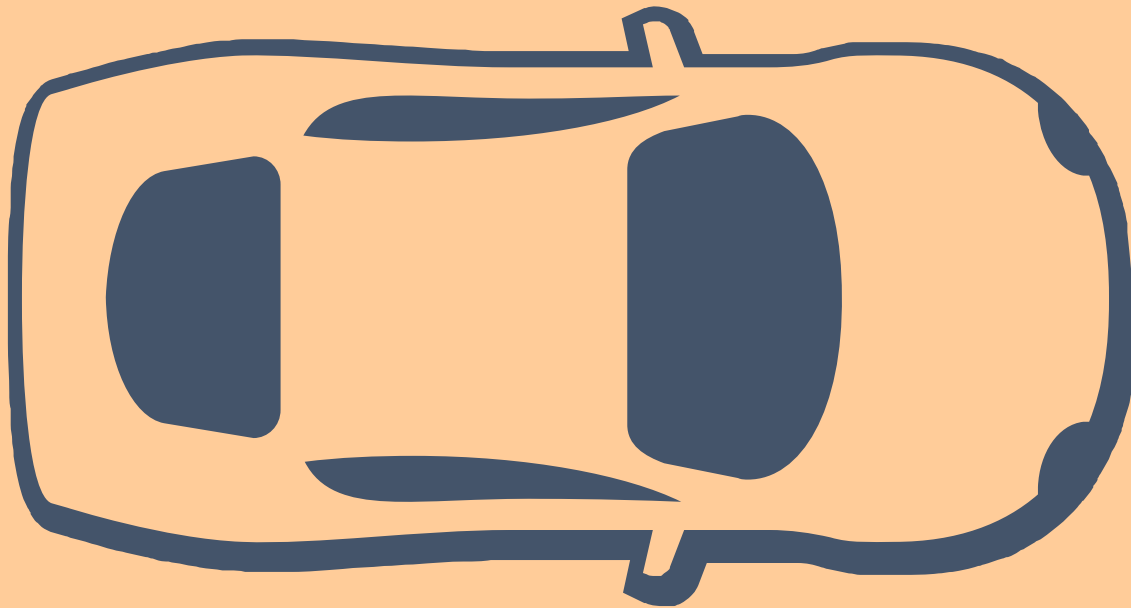
Enrollment

1. College Algebra is the third highest enrolled course in the system.

16,761 students enrolled in College Algebra in AY 21



College Algebra

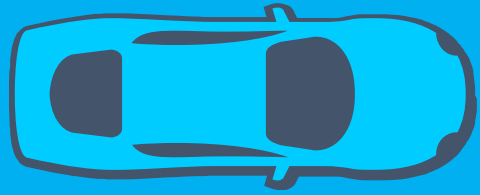


Most Majors

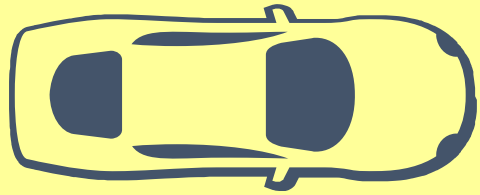
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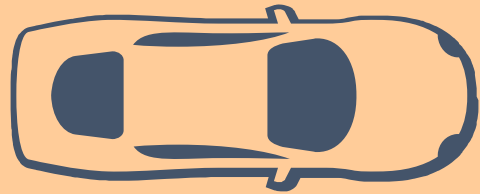
Statistics



Quantitative Reasoning



College Algebra



Majors Requiring Calculus

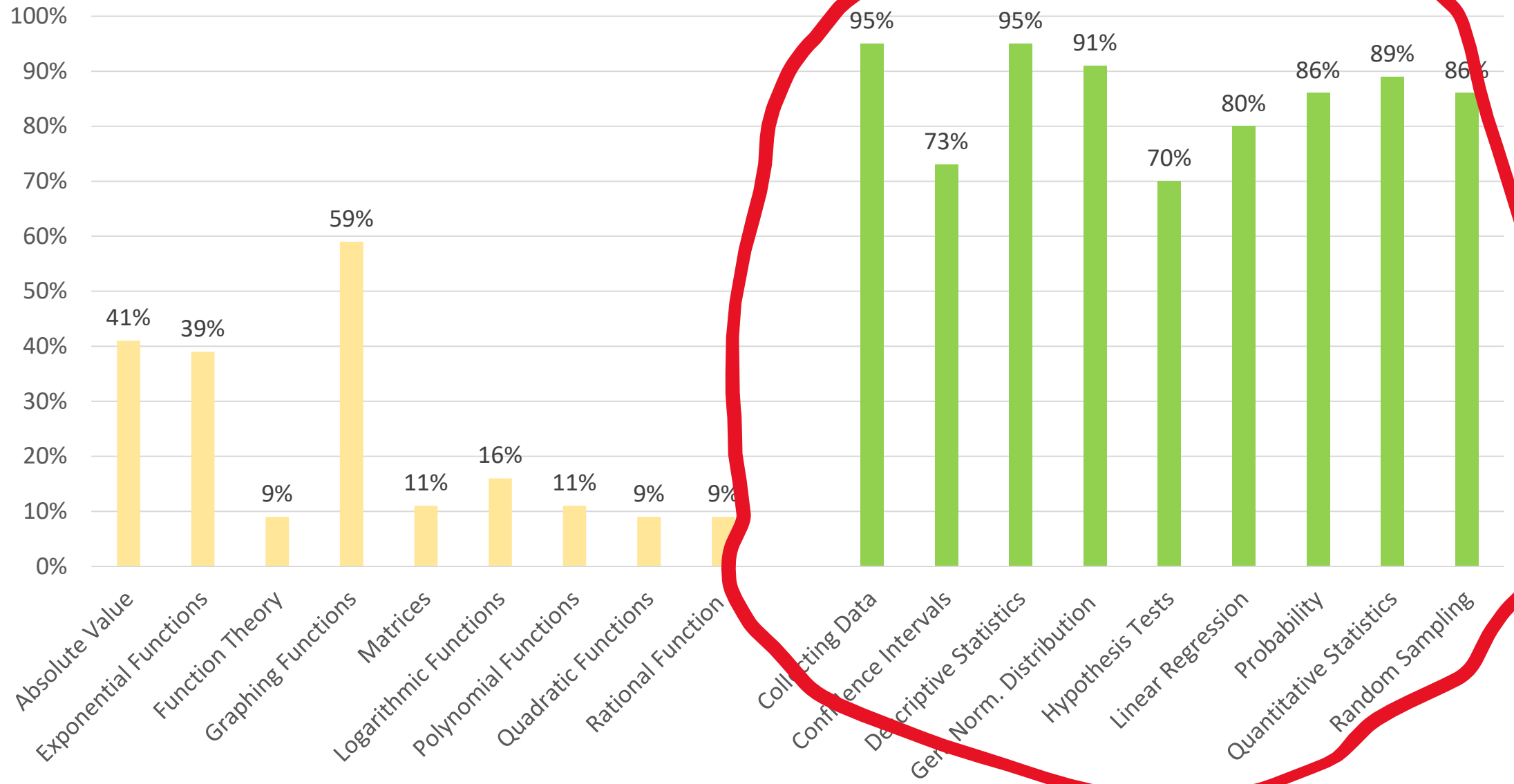
20% of All Majors



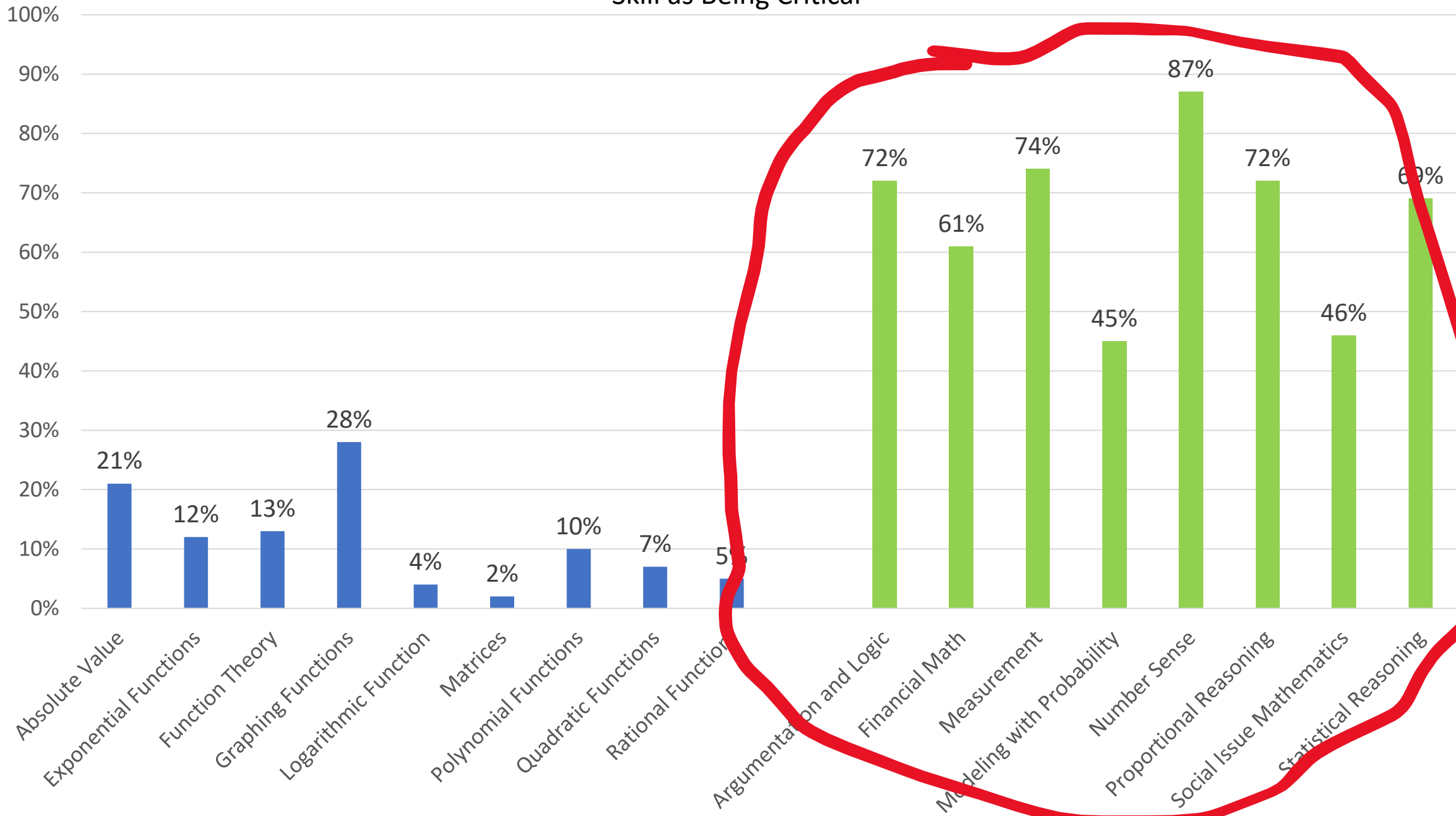
Math Survey to Identify Critical Math Skills

- Worked with the Dana Center at the University of Texas at Austin to develop a survey
 - What are the math skills that are critical for various disciplines?
 - Survey included college algebra skills, statistics skills, and quantitative reasoning (contemporary math) skills
 - Open for 3.5 weeks

Percentage of University Social Science Respondents that Noted a Math Skill as Being Critical



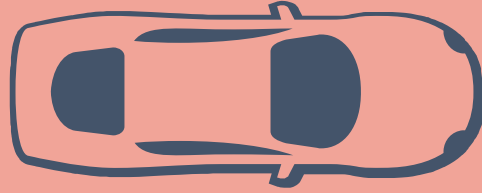
Percentage of Arts & Humanities Respondents that Noted a Math Skill as Being Critical





Math Pathways Associate of Applied Science Degrees

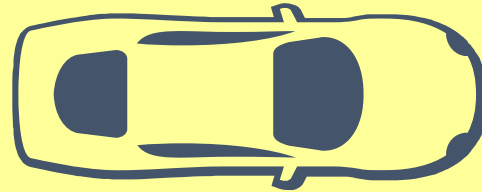
**Technical
Math**



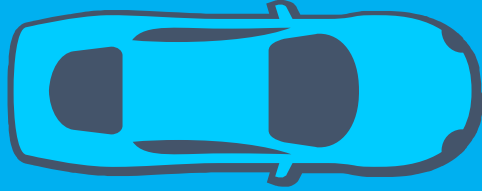
OR

One of the Following

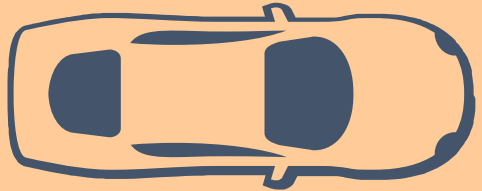
**Quantitative
Reasoning**



Statistics



**College
Algebra**



Majors Requiring Calculus
20% of All Majors



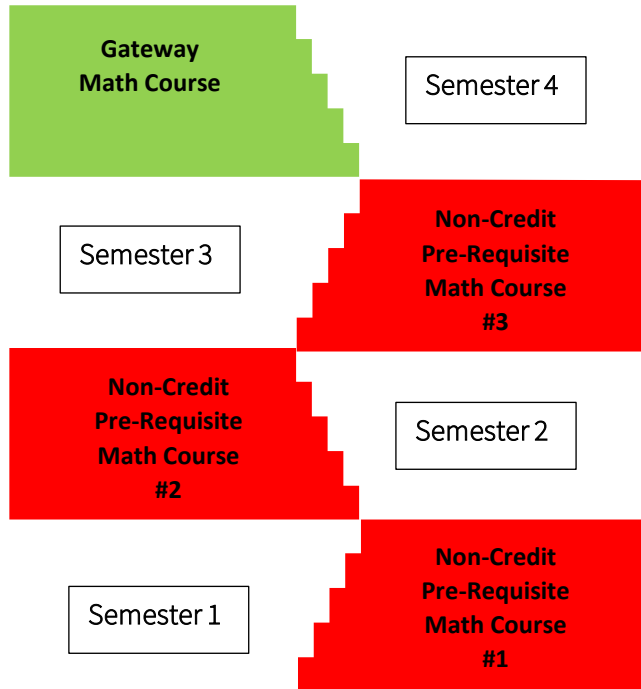
Corequisite Remediation



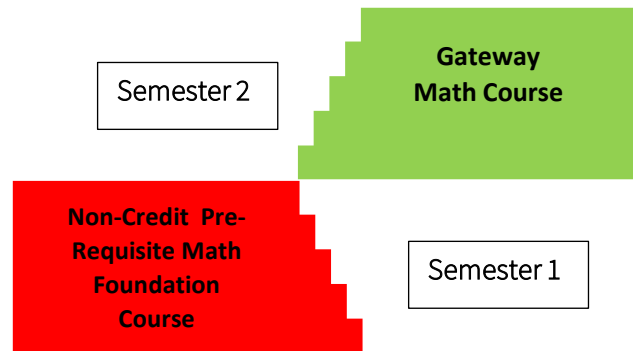


Different Developmental Education Models

Prerequisite Developmental Education Sequence Before Gateway Math Course



Prerequisite Developmental Education Foundation Course Before Gateway Math Course



Gateway Math Course AND Corequisite Math Developmental Education Support





Gateway Math Enrollment

Does the Student Meet One of the Following?

- 1) A Systemwide Course Placement Measure Required for the Gateway Math Course Associated with Their Major; OR
- 2) Institutionally Designated Course Placement Measure Required for the Gateway Math Course Associated with Their Major.

Yes

The Student is Eligible for the Gateway Math Course Section.

No

The Student Enrolls in the Gateway Math Course Section.



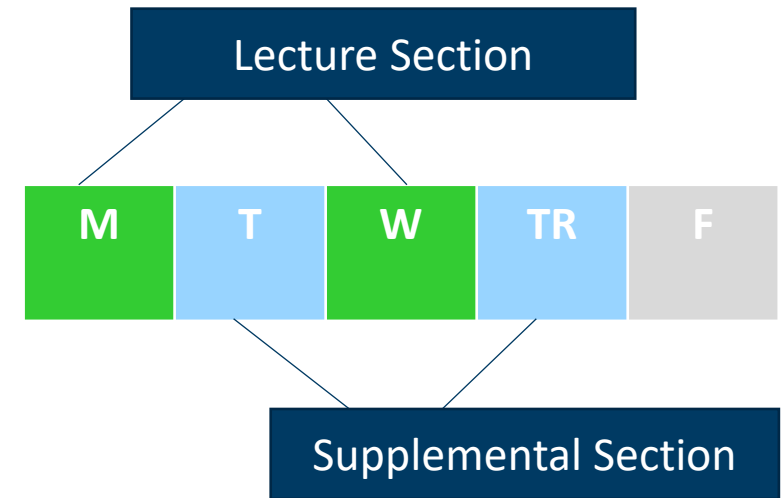
The Student Enrolls in a Corequisite Support Math Developmental Education Section.



Section Models

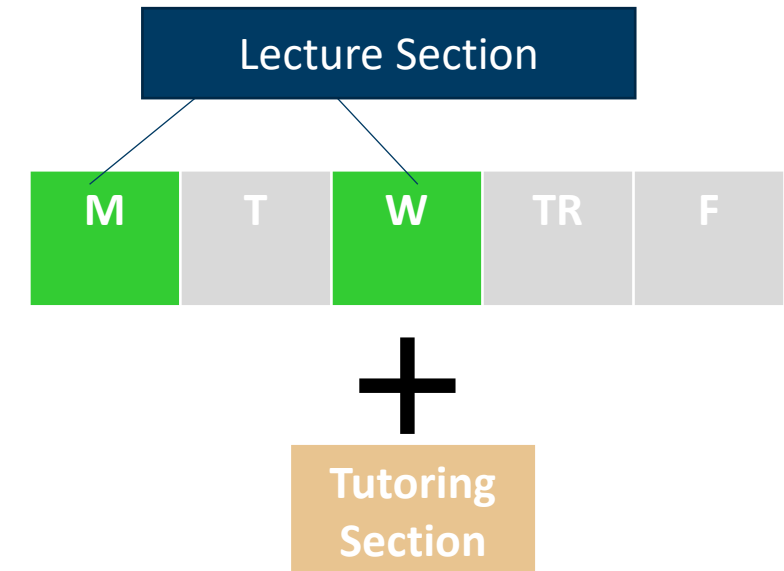
(1) Supplemental course section

- A student in a supplemental course section attends a corequisite support developmental education section model in which there are structured courses that run before, after, or on opposite days to the gateway course. The gateway course and the concurrent supplemental course are completed in the same semester.



(2) Mandatory tutoring section

- A student in a mandatory tutoring section attends a corequisite support developmental education section model in which mandatory tutoring in a lab is required for a specified number of hours per week. The gateway course and concurrent mandatory tutoring are completed in the same semester.

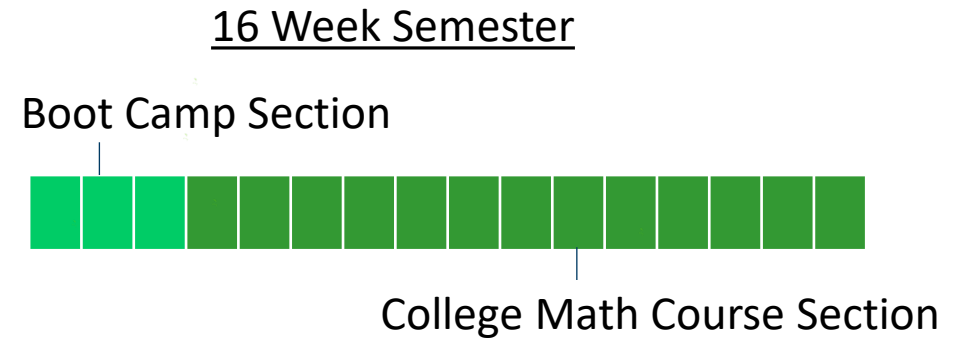




Section Models

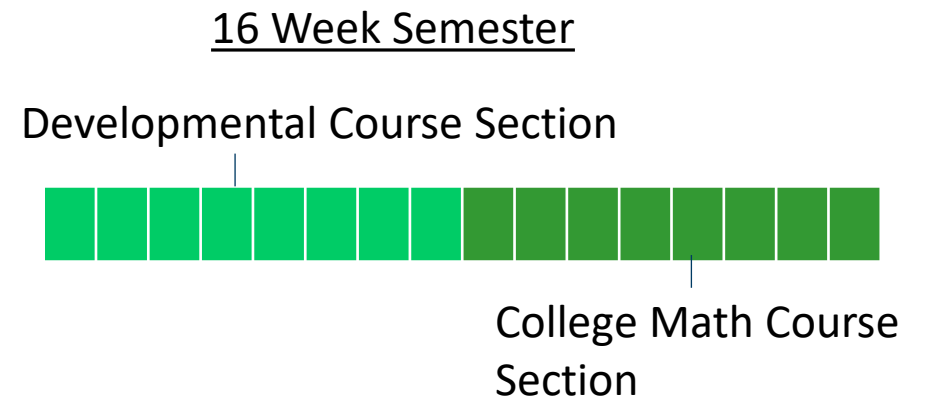
(3) Boot camp section

- A student in a boot camp section attends a corequisite support developmental education section model in which the first three to five weeks of the semester are typically developmental content, followed by the college-level content. Classes meet extra hours each week throughout the semester to equal the two classes or class plus lab. The boot camp and gateway course are completed in the same semester.



(4) Compressed course section

- A student in a compressed course section attends a corequisite support developmental education section model in which a developmental class is typically compressed into eight weeks, and then the college-level gateway course is typically compressed into eight weeks, so that both classes are completed in the same semester. Classes meet extra hours each week throughout the semester to deliver the applicable credit hours of instruction for both the corequisite section and the gateway course within the compressed timeframes.





Course Placement



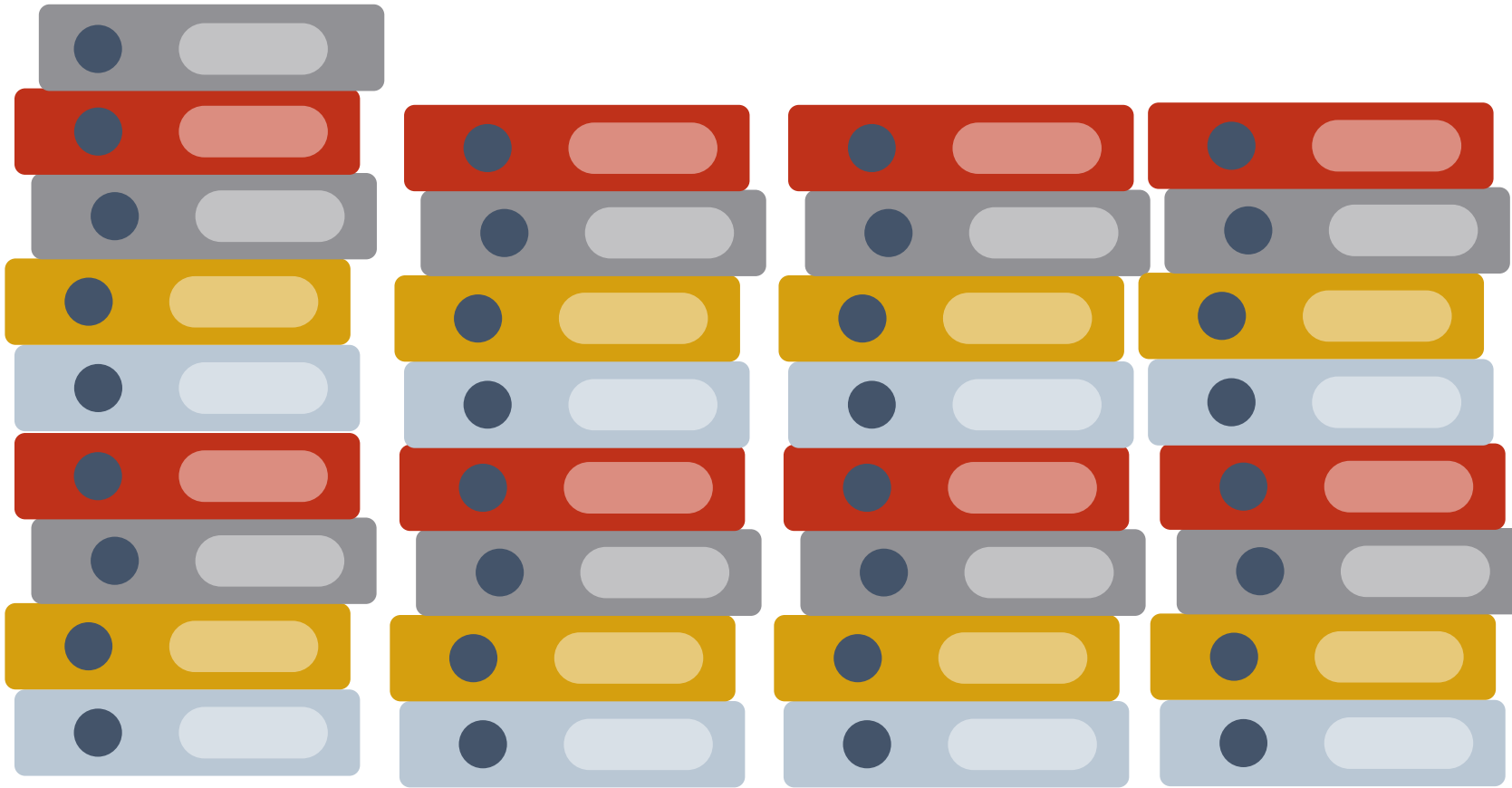


Course Placement

- High School GPA and/or grades in certain high school courses have shown to be a better predictor than standardized tests.
- Most institutions are using the high school record for course placement purposes in math.
- The course placement standards for College Algebra vary.



Common question from a high school counselor:
What is required to enroll in college algebra?



Up to 32
Different
Standards



Project Timing

Year of Activity	Project Steps
AY 24 <ul style="list-style-type: none">Fall 23-Spring 24	Professional Development and Preparation <ul style="list-style-type: none">Revisiting SWT Statistics and Contemporary Math Course Student Learning Outcomes on October 6, 2023.Finish Aligning Math PathwaysCreating Systemwide Course Placement Standards
AY 25 <ul style="list-style-type: none">Fall 24-Spring 25	Course Development and Preparation <ul style="list-style-type: none">KBOR-Sponsored Professional DevelopmentInstitutions design corequisite support sectionsInstitutions design math pathway courses (as needed)
AY 26 <ul style="list-style-type: none">Fall 25-Spring 26	Soft Launch <ul style="list-style-type: none">Offer at least one section of each gateway math course that applies to degrees on its campus for Fall 2025 and Spring 2026Offer at least one section of corequisite math support developmental education for each gateway math course that applies to degrees on its campus for Fall 2025 and Spring 2026.
AY 27 <ul style="list-style-type: none">Fall 26-Spring 27	Full-Scale <ul style="list-style-type: none">Use Systemwide Course Placement MeasuresFull Scale Corequisite Math RemediationFull Scale Math Pathways