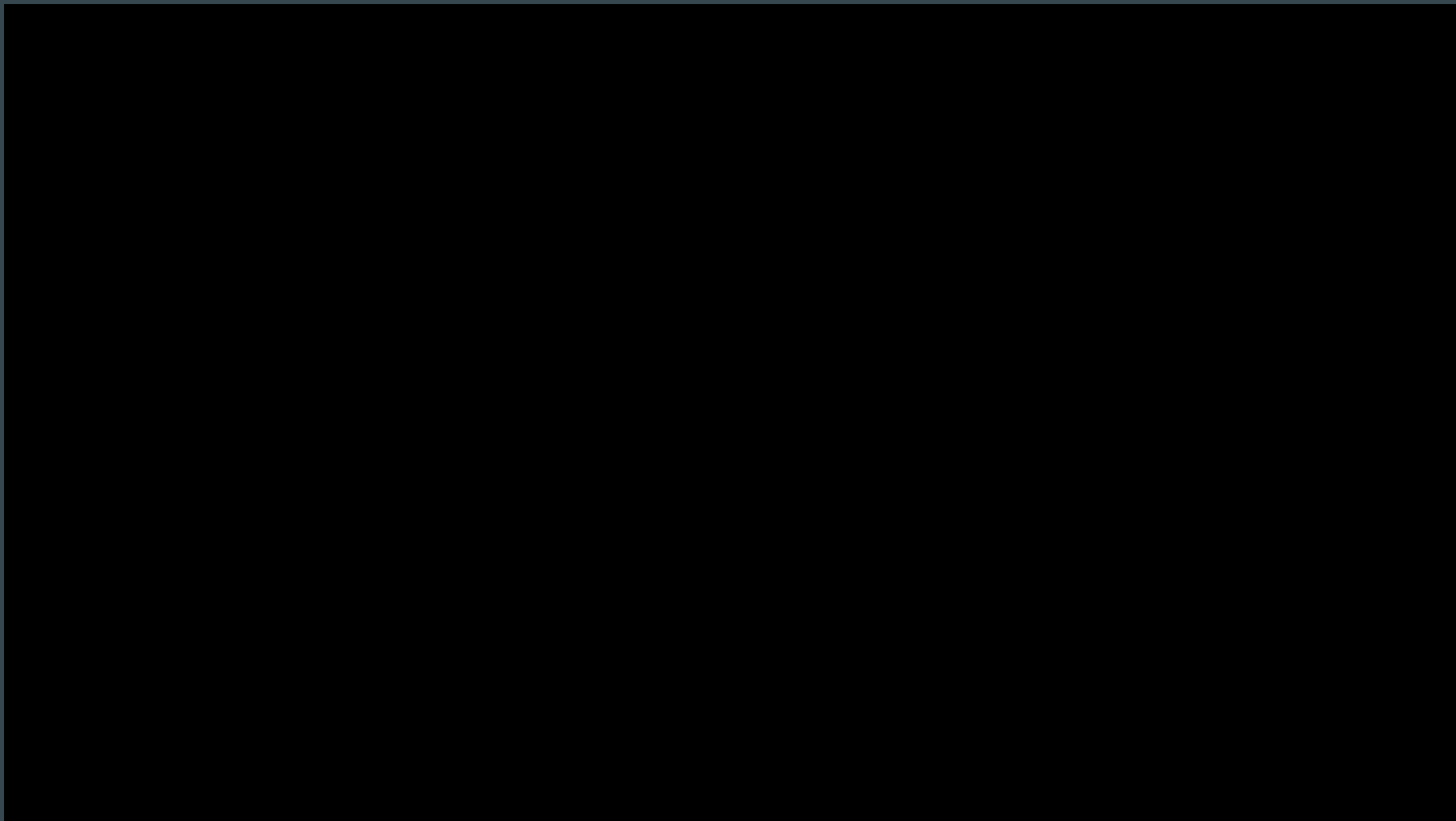# LRHSD Math Pathways:
More Options for Today's Learners

VISION

Our vision is to broaden the range of math classes available and to provide access to quality math instruction and content for all students.

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Students will be able to choose their pathway, depending on their interests and college/career aspirations.

Each pathway provides **rigorous** content to provide students with the background necessary to be successful in their post-secondary goals.

Why are we making this change?

- Data and research shows 21st century careers require more exposure to data science, statistics, and computer science.
- Because of the Common Vision Project, colleges are changing their math requirements to offer different pathways for undergraduates to serve as "mathematically substantive options" for students not headed to calculus.
- Colleges/universities are recognizing the value and rigor of other high school courses beyond Calculus for admission requirements- including Harvard, University of California & Stanford.

From Harvard's Website:

"Applicants to Harvard should excel in a challenging high school math sequence corresponding to their educational interests and aspirations. We recommend that applicants take four years of math courses in high school… "

"Examples include rigorous and relevant courses in computer science, statistics and its subfields, mathematical modeling, calculus and other advanced math subject… "

"Specifically, **calculus is not a requirement for admission to Harvard**."

LRHSD Math Pathways

Students would be able to choose between 2 different pathways starting at the Algebra 2 level:

1. CALCULUS PATHWAY - Algebra 2 FUNCTIONS

    This is a more traditional Algebra 2 curriculum preparing students for Calculus.

2. DATA SCIENCE PATHWAY - Algebra 2 DATA SCIENCE

    The content in the first semester is the same as Algebra 2 Functions. In the second semester students are exposed to the main ideas in data science.

Why would a student choose the Calculus Pathway?

- Calculus the study of change, which provides a way to mathematically model change and make predictions.
- Calculus provides the foundation to physics, engineering, business and higher level math/science courses.
- Anyone looking to pursue a degree in a STEM (Science, Technology, Engineering, Math) related field should chose the Calculus pathway.

Why would a student choose the Data Science Pathway?

- 90% of the world's data was collected from 2016-2018 (Marr 2018). Technology is exploding and we need people who understand how to analyze, manipulate and interpret data.
- Data Science would benefit students interested in careers in social sciences, nursing, psychology, pre-law, etc.
- A basic understanding of Data Science could help in every work industry.

LRHSD Math Pathways:
More Options for Today's Learners

CALCULUS Pathway

AP Calculus BC AP

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AP Calculus AB AP
Calculus ACC

↑

Precalculus HON/ACC

↑

Algebra 2 Functions Hon/ACC/CP

DATA SCIENCE Pathway

AP Computer Science A AP

↑

*AP Computer Science Principles AP
*Computer Programming I HON
*options are building specific

↑

AP Statistics AP
Prob/Stat ACC/CP

↑

Algebra 2 Data Science HON/ACC/CP

Geometry Hon/ACC/CP/PR

↑

Algebra 1 Hon/ACC/CP/PR

*All students must take Algebra I, Geometry & Algebra II

Can be taken concurrently with BOTH Pathways:

Semester Courses:
Computer Science Discoveries
Computer Science Principles
Discrete Mathematics
SAT Prep

Full Year Courses:
*AP Computer Science Principles AP
*Computer Programming I HON
AP Computer Science A AP

*options are building specific

Can be taken concurrently with CALCULUS Pathway:

Full Year Courses:
Prob & Stat ACC/CP
AP Statistics AP (prereq Algebra II)

Algebra 2 Pathways Content

1st Semester - Same Algebra 2 Big Ideas

2nd Semester

Algebra 2 FUNCTIONS
Traditional Algebra 2 Curriculum

Algebra 2 DATA Science
Data Science Curriculum

Calculus Pathway

Are you thinking about majoring in science, engineering, pre-med, math, economics, etc.?

Are you willing to solve problems that require many computational steps?

Data Science Pathway

Are you thinking about majoring in world language, english, social studies, psychology, pre-law, etc.?

Are you willing to spend time exploring what data tells you and analyzing problems that require written explanations?

Choosing LRHSD Math Pathway

1. Think about your college/career aspirations
2. Talk to your parent/guardians
3. Research college admission requirements
4. Discuss with your current math teacher
5. Review LRHSD Math Pathways FAQ
6. Consult with your School Counselor

Can I switch Pathways? YES!

- Moving from Calculus Pathway to Data Science Pathway can be done, however the new class must be requested before the beginning of the school year or during the course change window.
- Starting in Data Science and moving to Calculus can also be done, but it is recommended to make the change ASAP for the best chance of success in Precalculus and Calculus. <u>Students in this situation may be required to complete work in the summer.</u>
- **If you are unsure about your math pathway, always consult with your counselor.**

LRHSD Math Pathways:
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www.lrhsd.org/MathPathways

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