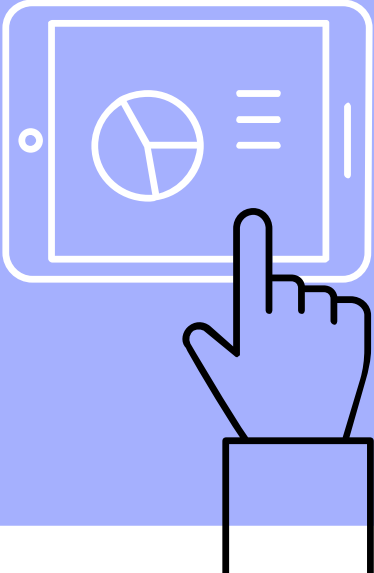
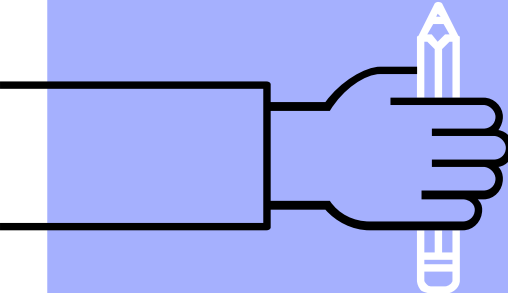


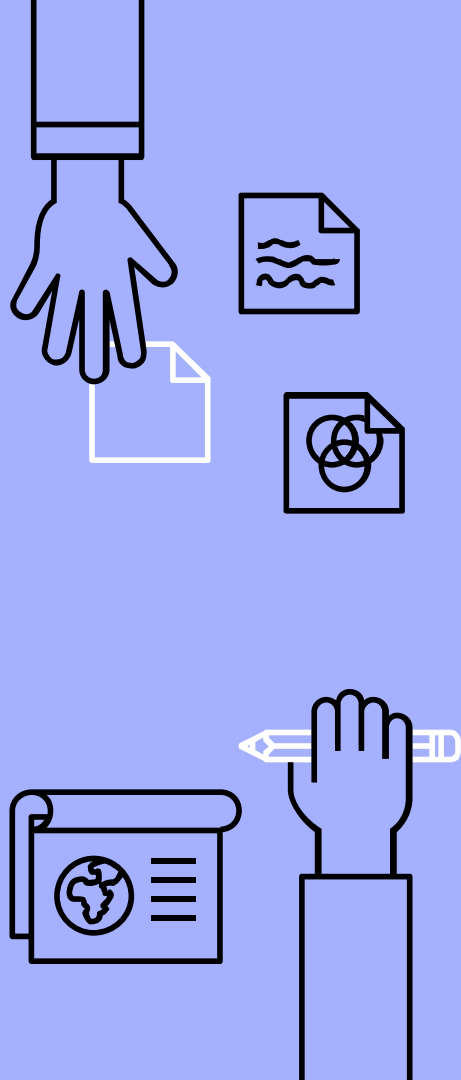
# Princeton Math Curriculum Update



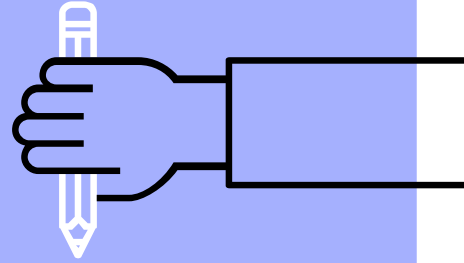
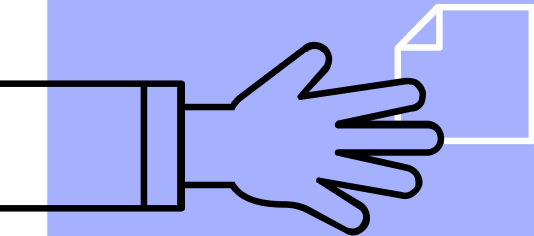
Presentation by Stephenie Tidwell  
K-12 Math and Business Ed  
Supervisor

# Purpose of Tonight

- ▶ Share a brief snapshot of the journey Princeton has been on to make math classes more equitable
- ▶ Briefly describe highlights from our review
- ▶ Describe our current status with the Math Curriculum Committee



# Our Journey



# Timeline

Pre-Algebra  
Accelerated for ALL  
6th graders (data  
informed)

New textbook  
series-enVision/Read  
y Math (Grades 1-5 &  
6-8)



Dr. Milou PD Grades K-5  
Educational Technology

Phase I-Math Department  
Internal Math Review

Spring- Report on  
Mathematic Review  
by Dr. Eric Milou,  
Rowan University

Fall- Phase II-Dr.  
Milou PD enVision  
implementation/  
Instructional Practice



## District News

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December 2020

Supervisor of Mathematics to Lead a Review of Course Options and Curriculum

Dec 10 2020

Stephenie Tidwell came to education by way of banking, so she knows a lot about applications of math in the real world. Her knowledge of how mathematics in the real world will help her as she sets about a review in Princeton's mathematics program opportunities, particularly at the high school level.

“ She has decided to **undertake a thorough review of the mathematics program from kindergarten through 12th grade to ensure it is as effective and equitable as possible.**”

“While Ms. Tidwell is only in her second year as Princeton’s supervisor of mathematics and business education, **she has heard clearly concerns from teachers, parents, and students regarding the lack of math pathways for many students toward the end of their high school careers.**”

<https://www.princetonk12.org/district/district-news/news/district-story/~board/district-news/post/supervisor-of-mathematics-to-lead-a-review-of-course-options-and-curriculum>

# First Phase of Math Review

- ▶ An **assessment of course sequencing** and of student demand for courses.
- ▶ The review focused particularly on the **transition from fifth to sixth grade and middle to high school.**



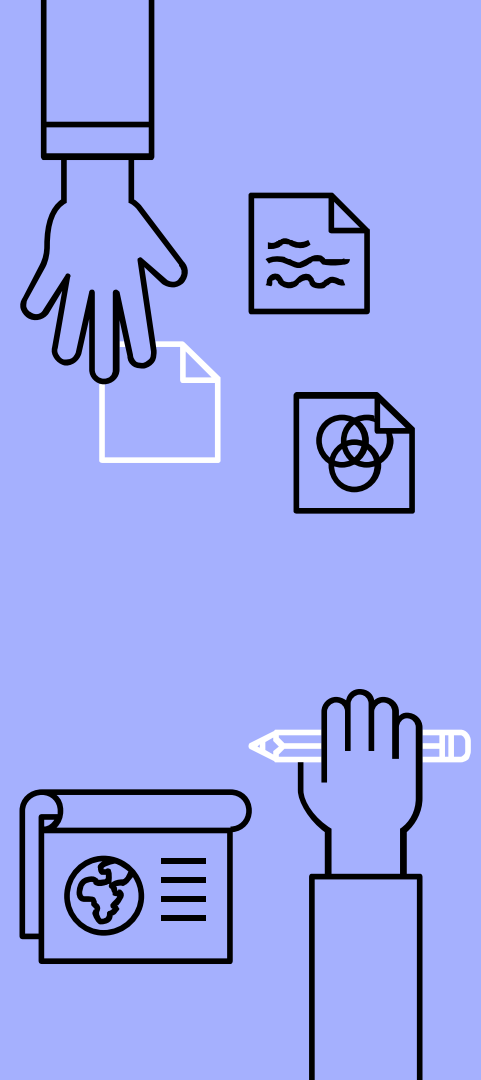
# 2022 Math Curriculum Committee

## Middle School Math

- ▶ A goal of the committee is to look at tracking policies from 6th to 7th for the upcoming year and decide on the process for 8th grade the following year.

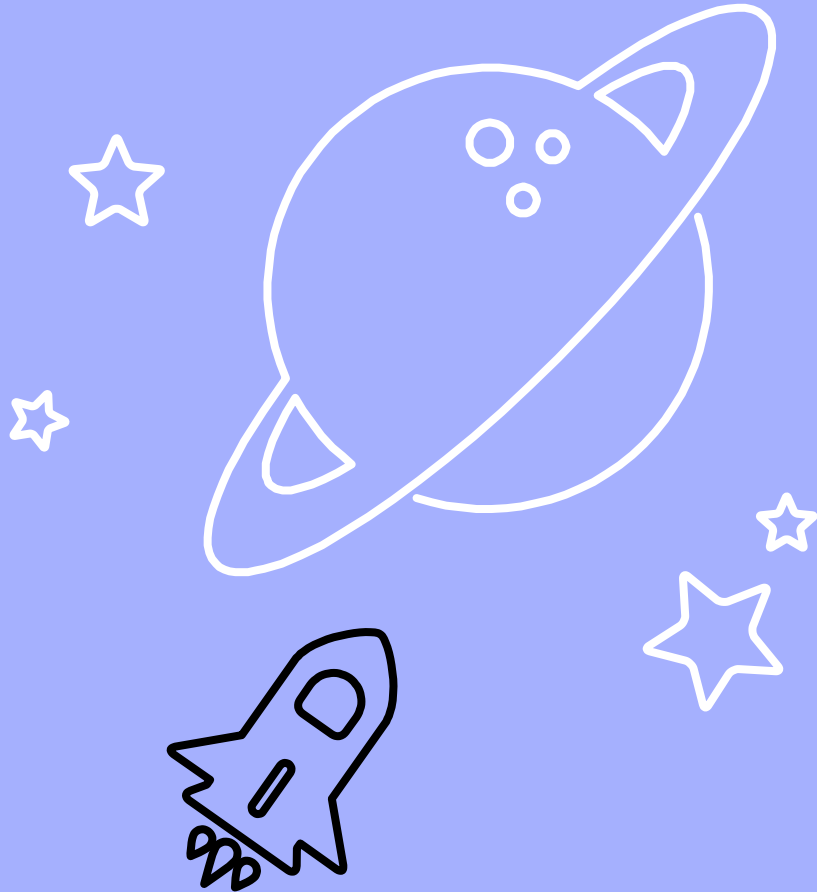
## High School Math

- ▶ The longer-term goal, will be to develop a program that is more expansive than what we currently offer, both in terms of the opportunities and the numbers of students who will end up participating.



# The Analysis

Dr. Milou Key Points





# Types of Math Curriculum

## Ideal or Intended Curriculum

- Set down in documents like in Rubicon

## Textbook or Material Curriculum

- Found in available materials for learning

## Taught or Implemented Curriculum

- The one experienced by the students

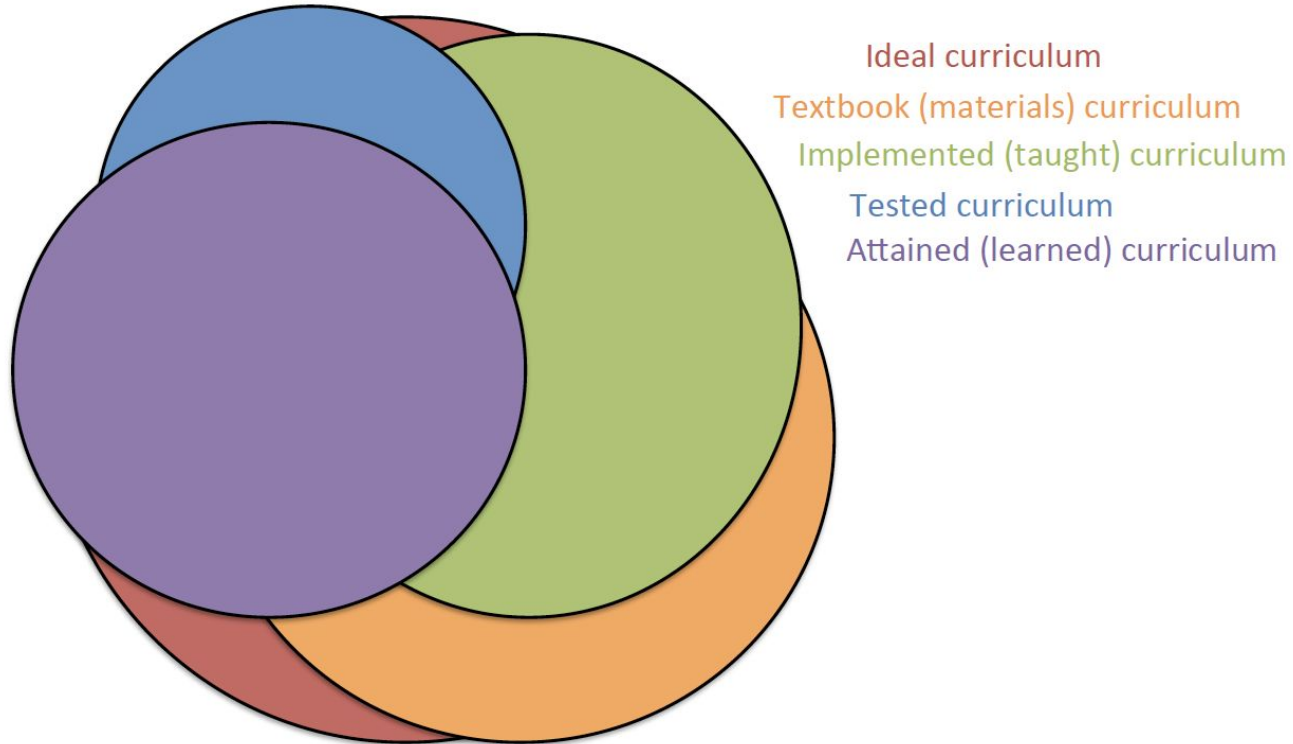
## Tested Curriculum

- Found in the tests given to students

## Learned or Achieved Curriculum

- The one that is learned by students

## In practice: the articulation is far from perfect



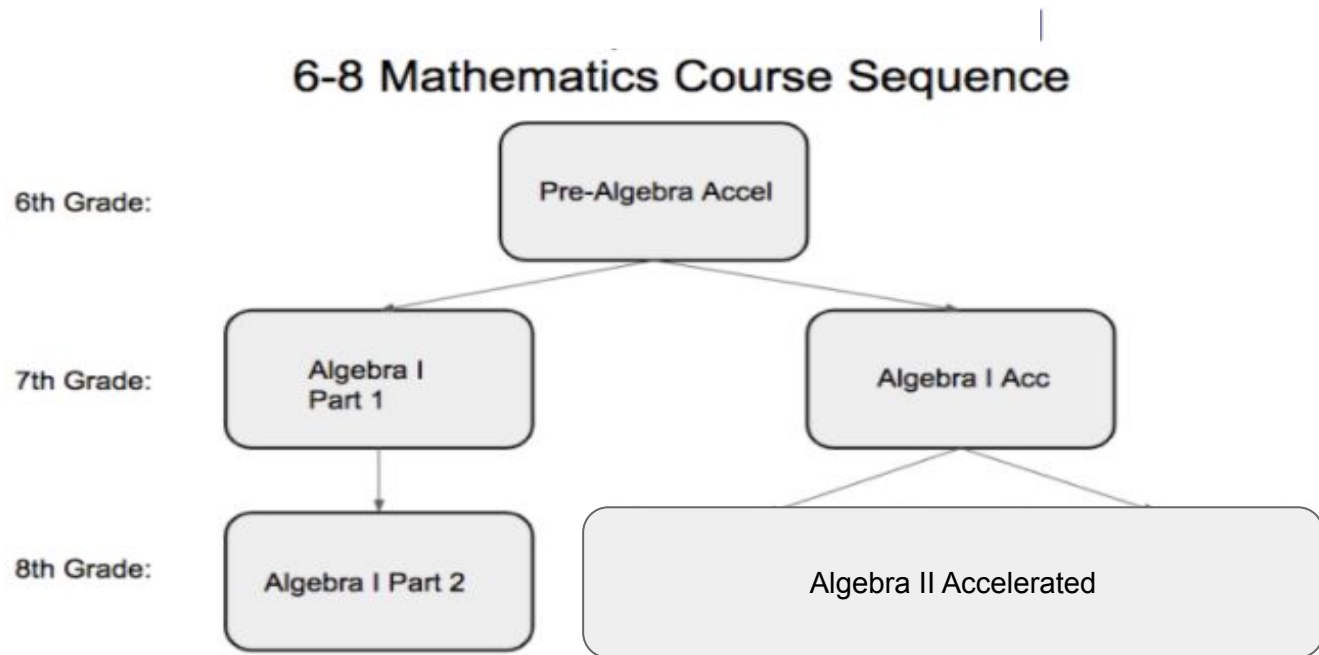
# Math Tracking

In 2019 the district “detracked” 6th grade mathematics.

- Heterogeneous Pre-Algebra Accelerated
- However, there was no **reevaluation of the 7th or 8th grade mathematics program**
  - Algebra I/II Acceleration and part-year Algebra I classes.



# Middle School Math



# Acceleration

- ▶ **Decisions on exactly which students** benefit from acceleration options and effective placement into these courses earlier than normal need to be **collaboratively made by the Princeton mathematics department and the guidance department** and thoroughly **understood by all of the members of the community.**
- ▶ In Princeton, some grade 8 students are enrolled in high school courses including Geometry and Algebra II. **Due to the lack of cohesiveness of the 6th and 7th grade curriculum, this practice should be revisited.**





“

“Many school districts often skip 7th or 8th grade mathematics to rush students into algebra in a “race to calculus.” Such a race is often misguided.” - Dr. Milou



“

Acceleration does enable and encourage selected students to take the same coursework one, or in very rare cases, two years ahead of what is typical but in making these decisions, it is essential that appropriate accelerated opportunities **ensure that no critical concepts are rushed or skipped.**





“

1983, the report *A Nation at Risk* included urgent language around dismantling tracking in American high schools and called for a commitment to the “twin goals of equity and high-quality schooling.”

More than 40 years later, tracking is still prevalent as seen in the Princeton.





# Tracking consequences at the HS

- ▶ Due to the middle school grade 7 and 8 tracking, the high school tracking is even more extensive (3+ tracks) with one pathway towards to Calculus.
- ▶ Specifically, the district offers **multiple** tracks of the Algebra-Geometry-Algebra II sequence geared to culminate in Calculus.



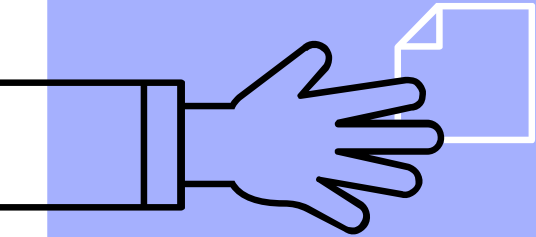
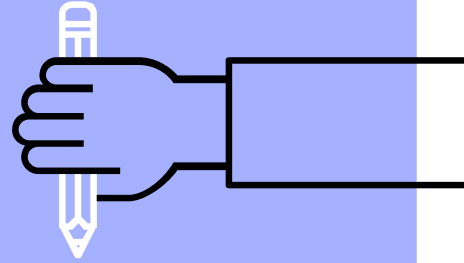
# Current PHS Math Course Offerings

## 9-12 MATH & CS COURSE SEQUENCES

THIS CHART REPRESENTS TYPICAL COURSE PROGRESSIONS.  
EVERY STUDENT IS SCHEDULED ACCORDING TO THEIR INDIVIDUAL HISTORY USING TRANSCRIPTS AND OTHER DATA.

	Mathematics						Computer Science		
8th grade / start pt.	Algebra I Part 2				Algebra II Accel		Algebra I		
9th grade:	Algebra I (w/wo Plus)		Geometry (w/wo Plus)		Geometry Accelerated		Python	CS Principles	
10th grade:	Geometry (w/wo Plus)		Algebra II (w/wo Plus)		PreCalculus Accelerated		JAVA		
11th grade:	Algebra II (w/wo Plus)		Pre-Calc or AP Stats		AP Stats	Ap Calc AB or BC	AP CS		
12th grade:	Applications and Modeling w/ Math	Intro to Stats/Discrete Math	PreCalc (w/wo Plus)		Calculus or AP Calc AB		Multivariable Calculus & Linear Algebra		Algorithms & Data Structures

# A Possible Destination for Math Curriculum



# A POSSIBLE DESTINATION...

Grade	Courses		
9 <sup>th</sup>	Algebra I (or Integrated Math I)		
10 <sup>th</sup>	Geometry (or Integrated Math II)		
11 <sup>th</sup>	Quantitative Literacy Pathway	Statistics Pathway	Calculus Pathway
	The mathematics of real world problem-solving, modeling, financial literacy and effective citizenship: Students intending to follow paths in technical fields, liberal arts, and communications.	The mathematics of data, uncertainty and chance: Students intending to enter health, social science, and business fields.	The mathematics of functions and change: Students intending to enter STEM and natural science fields.
12 <sup>th</sup>	A range of 4th year math options including: AP Statistics, Introduction to Data Science, Topics in Finite & Discrete Mathematics and Financial Algebra		Pre-Calculus or AP Statistics

# 9-12 MATH & CS COURSE SEQUENCES

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					Algorithms & Data Structures		

A Possible Destination

THANKS!



