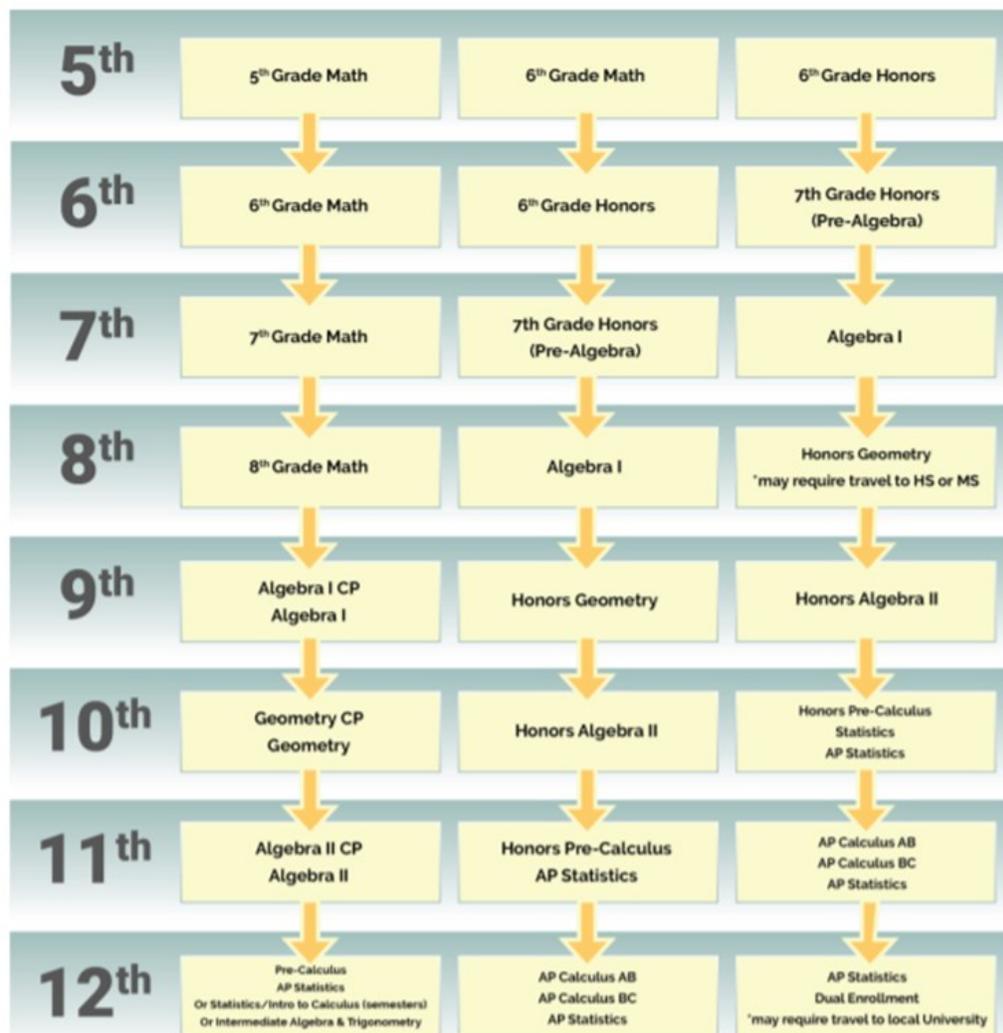# Mathematics Department

Rising Freshmen Information Night 2022

Welcome to Grosse Pointe South High School!

We look forward to working with you and your incoming freshman. Below is the ***Secondary Math Pathways*** *chart* for our school district. Occasionally horizontal movement may be recommended for individual students. The below identified pathway is intended to be the typical and expected sequence for students. At the high school, if students wish to take math courses concurrently or out of sequence, they may do so with the support and permission of the Math Department Chair(s) and their counselor. Refer to the back of this document for a description of the typical courses offered to incoming freshmen pulled from our Program of Studies. If you have any questions, please contact the math department co-chairs, Beth Bornoty at bornote@gpschools.org and Kristie Philliben at phillik@gpschools.org.

SECONDARY MATH PATHWAYS

Grade			
5th	5th Grade Math	6th Grade Math	6th Grade Honors
6th	6th Grade Math	6th Grade Honors	7th Grade Honors (Pre-Algebra)
7th	7th Grade Math	7th Grade Honors (Pre-Algebra)	Algebra I
8th	8th Grade Math	Algebra I	Honors Geometry *may require travel to HS or MS
9th	Algebra I CP / Algebra I	Honors Geometry	Honors Algebra II
10th	Geometry CP / Geometry	Honors Algebra II	Honors Pre-Calculus / Statistics / AP Statistics
11th	Algebra II CP / Algebra II	Honors Pre-Calculus / AP Statistics	AP Calculus AB / AP Calculus BC / AP Statistics
12th	Pre-Calculus / AP Statistics / Or Statistics/Intro to Calculus (semesters) / Or Intermediate Algebra & Trigonometry	AP Calculus AB / AP Calculus BC / AP Statistics	AP Statistics / Dual Enrollment *may require travel to local University

Mathematics Department

Freshmen Class Offerings

318 – ALGEBRA I   Prerequisite: Math 8 1 CREDIT

This class is designed for the high school student who will have exposure to and experience with the concepts that are presented in the Common Core State Standards for Mathematics. This course is a traditional approach to the study of first year Algebra concepts. This Algebra 1 course builds on the study of functions and representations that began in the middle school. Students will learn to simplify in the following areas: polynomial expressions, exponents, radicals, and rational expressions. Students will learn to solve in the following areas: linear equations, linear inequalities, absolute value equations, systems of equations, quadratic and rational equations. Students will focus on graphing in the areas of linear and quadratic functions.

307 – ALGEBRA 1 CP   Prerequisite: Math 8 Requirement: Teacher recommendation 1 CREDIT

This class is designed for the high school student who requires a thorough mathematical preparation to pursue those fields in college that demand a solid mathematical foundation. This course is a traditional approach to the formal study of first year Algebra. Algebra 1 builds on the generalized approach to the study of functions and representations begun in the middle school grades. Students will learn to simplify and factor expressions, solve linear and quadratic equations, and systems of equations. Students will study families of functions, their equations and their graphs 69 including linear, quadratic, radical, rational, and exponential. Using these functions, students will model real-world situations using data and solve related problems. Units and lessons are aligned to the Common Core State Standards for Mathematics, which are designed to prepare all students for success in high school and beyond.

330 - HONORS GEOMETRY   Prerequisite: Honors Algebra I Requirement: Teacher Recommendation 1 CREDIT

The Honors Geometry course is rigorous and designed for students who excel in mathematics. In this course, students will engage in activities that allow them to create geometric understanding. Emphasis will be placed on developing critical thinking skills as they relate to logical reasoning and argument. Topics include logic and proof, parallel lines and polygons, perimeter and area analysis, volume and surface area analysis, similarity and congruence, trigonometry, and analytic geometry. Algebra I concepts are interwoven through the entire course to enhance student learning. This course emphasizes problem solving and logic as methods used to develop each new concept. Every effort is made to avoid stopping at the customary, fixed boundaries of the traditional mathematics course to improve students' ability in applying theory and in analyzing problems independently. Units and lessons are aligned to the Common Core State Standards for Mathematics, which are designed to prepare all students for success in high school and beyond.

335 – HONORS ALGEBRA II   Prerequisite: Honors Geometry Requirement: Teacher recommendation 1 CREDIT

The Honors Algebra 2 course is designed for students who have a strong degree of mastery of material learned in previous math courses and are capable of handling the rigor and pace of an honors course. This course is an in-depth study of functions [quadratic, polynomial, radical, rational, exponential, and logarithmic]. Graphing, solving, and application are all studied in great detail. Other topics include probability and statistics, conics, sequences and series, matrices, as well as an in-depth study of trigonometry. Every effort is made to avoid stopping at the customary, fixed boundaries of the traditional mathematics course to improve students' ability in applying theory and in analyzing problems independently. Units and lessons are aligned to the Common Core State Standards for Mathematics, which are designed to prepare all students for success in high school and beyond. A graphing calculator is used throughout the course to enhance student learning.