



## MATHEMATICS CURRICULUM OVERVIEW

TRACKS	FRESHMAN	SOPHOMORE	JUNIOR	SENIOR
Foundations Track	Euclidean/Analytical Geometry	Algebra I	Algebra II/Trig	Pre-Calculus
Traditional Track	Euclidean/Analytical Geometry	Algebra II/Trig	Pre-Calculus	Calculus (AB)
Honors Track	Euclidean/Analytical Geometry	Honors Algebra II/Trig*	Honors Pre-Calculus*	Calculus (BC)*
Advanced Track	Honors Algebra II/Trig*	Honors Pre-Calculus*	Calculus (BC)*	Statistics*

### Why Geometry first?

(1) Geometry introduces students to an ordered, logical, and beautiful world. They learn that the world makes sense and can be known through close observation and precise logic. (2) Geometry helps students understand *why* math equations work and how they function; that equations and proofs depict something *real*. This knowledge fosters a greater understanding and love of mathematics. (3) Geometry is a significant component of standardized tests such as the PSAT, ACT, and SAT. Introducing students to geometry early establishes a strong foundation to help them perform well on these exams.

### Algebra I or Algebra II?

Students at Chesterton Academy take an algebra placement exam before or during freshman year. This exam, coupled with the records we have and the recommendation of teachers, helps us to place students in the appropriate level of algebra during sophomore year. Note that even some students who have already taken algebra in 8<sup>th</sup> grade may be counseled to take Algebra I again in 10<sup>th</sup>. The reason for this is that we find that the students who succeed most in upper-level mathematics courses are those who have *the firmest grasp of the fundamentals of algebra*. Thus, it is essential not to rush through the algebra sequence, as doing so will have negative consequences later on.

### Traditional or Honors?

The Traditional Track takes students from Algebra II/Trig through a full year of Pre-Calculus into Calculus AB, which completes all of the AP Calculus AB material, preparing students to take the AP exam if they desire. The Honors track moves through Algebra II/Trig at a much faster pace. Students continue with Honors Pre-Calculus, which covers all of Pre-Calculus in a single semester and moves right into Calculus material by second semester. By senior year, they will complete all of the AP Calculus BC material with the option of taking the AP exam if they desire.

### AP Exams?

Advanced Placement Exams (AP) enable students to pursue college-level studies while still in high school. Chesterton Academy does not offer official AP courses, but does provide opportunities and guidance for students to prepare for AP exams, through which a student may be able to receive college credit. The Calculus AB course prepares students to take the AP Calculus AB exam, and the Calculus BC course prepares students to take the AP Calculus BC exam. *Students are encouraged but not required to take the AP exam in either course.*

\* Classes marked with an asterisk (\*) are offered only when there are enough students and at the discretion of the headmaster.