Course Description

Pre-Calculus Honors is designed to prepare the serious student of mathematics for Calculus. Students will analyze mathematical concepts numerically, graphically, algebraically, and verbally. Topics covered include a review of basic algebraic concepts; analysis of functions and techniques for graphing polynomial, rational, radical, exponential, logarithmic, and trigonometric functions; trigonometric identities; probability and statistics; the formulation of algebraic proofs; conic sections; parametric and polar coordinates; matrix theory; vectors; three-dimensional mathematics and an introduction to limits and derivatives. Students, as mathematical analysts, will develop logical thinking and imagination through the experience of mathematical patterns and will become familiar with the fundamentals of precalculus through the use of the textbook, online resources, and a graphing calculator. In addition, the course will prepare students for college-level mathematics. Throughout the course, students will explore mathematics as a fundamental aspect of God's creation, mathematical tools as necessary and useful in daily life, and mathematics used for the interpretation of scientific knowledge.

This is a yearlong course consisting of 11 units. Upon successful completion students will receive 1 credit towards high school graduation.

Course Overview

Semester 1 Units:	Semester 2 Units:
1. Functions and Graphs	6. Additional Topics in Trigonometry
2. Polynomial, Power, and Rational Functions	7. Linear Systems and Matrices
3. Exponential, Logistic and Logarithmic Functions	8. Sequences, Series, and Probability
4. Trigonometric Functions	9. Topics in Analytic Geometry
5. Analytic Trigonometric	10. Analytic Geometry in Three Dimensions
	11. Limits and an Introduction to Calculus

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Methods of Evaluation

Students will demonstrate mastery through the following formative and summative assessments:

- 40%   Assignments
- 10%   Participation (Discussion Posts, Live Classes)
- 10%   Quizzes
- 25%   Final Assessment
- 15%   Unit Tests

Additional Course Information

Detailed information regarding OC Online policies on proctored final exams, grading policy, late/missing assignment policy, weekly live classes, course expectations, and additional school policies can be found on the website.

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