



Course Description

Pre-Calculus is designed to prepare the serious student of mathematics for Calculus. Topics covered include a review of basic algebraic concepts; analysis of functions and techniques for graphing polynomial, rational, radical, algebraic, exponential, logarithmic, and trigonometric functions; trigonometric identities; probability and statistics; the formulation of algebraic proofs; conics and polar coordinates; matrix theory; vectors; 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 and college-level entrance exams, such as the SAT Math Section, the ACT Math Section and the SAT Math Subject Tests. 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

- Functions and Graphs
- Polynomial, Power, and Rational Functions
- Exponential, Logistic and Logarithmic Functions
- Trigonometric Functions
- Analytic Trigonometric

Semester 2

- Additional Topics of Trigonometry
- Linear Systems and Matrices
- Sequences, Series, and Probability
- Topics in Analytic Geometry
- Analytic Geometry in Three Dimensions
- Limits and an Introduction to Calculus

Required Course Materials

Please access the list of course materials from the OC Online book ordering system and order your materials as soon as possible. Oftentimes, course materials are on back order and you may experience a delay in receiving them, causing students to fall behind in their online coursework. When ordering used or rented materials, be careful that online access codes are also current.

Grading Policy

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.