

High School Mathematics

Algebra I

Prerequisite: Completion of Pre-Algebra.

Algebra is a rigorous curriculum focused on problem solving and critical thinking. In this course students will learn the following major concepts:

- Equations and Formulas
- Algebraic Expressions
- Relations and Functions
- Linear Equations and Graphs
- Slope
- Linear Inequalities and Graphs
- Data Analysis

Algebra II

Prerequisite: Completion of Algebra I.

Algebra II is a continuation of the Algebra I curriculum focused on problem solving and critical thinking. In this course students will learn the following major concepts:

- Rational Exponents
- Polynomial and Rational Expressions
- Complex Numbers
- Functions
- System of Equations
- Quadratic Equations
- Exponential and Logarithmic Functions
- Polynomials
- Rational Expressions
- Data Analysis
- Sequences

Geometry

Geometry introduces the study of points, segments, triangles, polygons, circles, solid figures, and their associated relationships as a mathematical system.

Emphasis is placed on the description and use of inductive, deductive, and intuitive reasoning skills.

Powers of abstract reasoning, spatial visualization and logical reasoning patterns are improved through this course.

Points, segments, triangles, polygons, circles, and solid figures are the structures studied.

The focus is on comparisons between these figures concerning surface areas, volumes, congruency, similarity, transformations, and coordinate geometry.

Pre-Calculus

This class is intended to provide the mathematical background needed for calculus, and assumes that students have taken a geometry course and two courses in algebra.

The concepts that play a central role in calculus are explored from algebraic, graphical, and numerical perspectives. Students are expected to participate actively in the development of these concepts by using graphing calculators.

Graphing polynomial and rational functions, introducing complex numbers.

Solving and graphing exponential and logarithmic functions.

Introducing graphs of trigonometric equations and solving trigonometric equations by using graphical methods, as well as finding algebraic solutions by using inverse trigonometric functions.

