

CURRICULUM OVERVIEW

HIGH SCHOOL MATHEMATICS

Algebra I and II, Geometry, Precalculus, and Calculus

Strengthen flexible reasoning and mathematical communication.

Students examine relationships, analyze functions, work with geometric models, and build toward advanced mathematical ideas. Topics are organized by course rather than a fixed grade sequence, making it easier to connect the overview to a student's current coursework.

IN THIS OVERVIEW

01 Algebra I

02 Algebra II

03 Geometry

04 Precalculus

05 Calculus

Confirm advanced-course availability and the appropriate course sequence during program planning. This overview is not a fixed lesson sequence.

TOPICS AND SKILLS

Algebra I

Sequences

Linear and exponential functions

Features of functions

Equations and inequalities

Systems of equations and inequalities

Quadratic functions

Structures of quadratic expressions

Modeling data

Rational exponents

Properties of rational and irrational numbers

Algebra II

Number systems and operations

Polynomial functions

Rational functions and expressions

Modeling periodic behavior

Trigonometric functions, equations, and identities

Modeling with functions

Statistics

Matrices

TOPICS AND SKILLS

Geometry

Transformations and symmetry

Congruence, construction, and proof

Geometric figures

Similarity and right-triangle trigonometry

Circles: a geometric perspective

Measuring circles, angles, and shapes

Algebraic expressions in geometry

Modeling with geometry

Probability

Calculus

Rates, sums, limits, and continuity

Slope and curve analysis

The Fundamental Theorem of Calculus

Derivative tools and applications

Related rates

Precalculus

Area under a curve

Polynomial and rational functions

Exponentials and logarithms

Triangles and vectors

Limits and rates

Extending periodic functions

Matrices

Conics and parametric functions

Polar functions and complex numbers

Series and statistics