

Syllabus For Geometry

Northwest Academy

This course introduces the basics of geometry and logic. Students will explore the fundamentals of triangles, angles, and various geometric shapes. Students will be introduced to the material through online videos and then will be provided with online and offline practice opportunities.

Introduction to Euclidean Geometry

Angles and Intersecting Lines

- Angle basics and Measurements
- Angles between intersecting and parallel lines
- Angles with triangles and polygons
- Complementary and Supplementary angles

Congruence

- Transformations and Congruence
- Congruence Postulates
- Congruence and Isosceles and Equilateral Triangles

Similarity

- Similarity and transformations
- Triangle Similarity
- Solving Problems with similar and congruent triangles

Right Triangles and Trigonometry

- Pythagorean Theorem
- Pythagorean Theorem Proofs
- Special Right Triangles
- Sine, Cosine and Tangent Trig Functions
- Trig Ratios and Similarity

Perimeter, Area and Volume

- Perimeter and Area of Triangles
- Triangle Inequality
- Circumference and Area of circles
- Perimeter and Area of Nonstandard shapes
- Volume and Surface Area

Circles

- Circle arcs and sectors
- Equation of a circle

Quadrilaterals

- Quadrilateral overview

Transformations

- Introduction to transformations
- Translations
- Rotations
- Reflections
- Symmetry
- Dilations

Analytic Geometry

- Geometry on the coordinate plane
- Distances between points
- Equations of parallel and perpendicular lines

Constructions