Northern York County School District

Curriculum Overview

Course: Honor's Geometry 1.12	
Grade Level: 8/9	
Development/Revision Date: May 2022	**Length of Time:** 180 days

Course Description:

Honor's Geometry is a year-long course designed to provide students with an in-depth knowledge of important geometrical concepts and applications which are addressed in the Pennsylvania Core Standards for mathematics. This course is for students who have successfully completed Algebra I. Honor's Geometry provides students with instruction in the logical reasoning used for drawing correct conclusions from definitions, postulates, corollaries, and theorems. The course will include topics in plane geometry including Geometric Properties & Reasoning as well as Coordinate Geometry & Measurement. A goal of this course is to accelerate students so they may have an opportunity to study mathematics at a collegiate level their junior and/or senior years.

Course Objectives:
- Write Geometric Proofs without scaffolding (including direct, indirect, paragraph, and flow proofs)
- Develop Inductive & Deductive reasoning skills
- Comprehend foundational geometric concepts including lines & angles, parallel & perpendicular lines, congruent figures, similarity, and right triangle trigonometry
- Strengthen and expand Algebra I skills through geometric topics (with focus on fractions, radicals, systems of equations, and factoring)
- Prepare a solid foundation for students to advance to Honor's Algebra II, Pre-Calculus, Calculus, and higher-level collegiate mathematics.

Foundational Units:
- Basics of Geometry
- Reasoning & Proofs
- Parallel & Perpendicular Lines
- Congruent Triangles
- Relationships within Triangles
- Quadrilaterals & Other Polygons
- Similarity
- Right Triangles & Trigonometry
- Circles
- Circumference & Area
- Surface Area & Volume

Related Standards:	
CC.2.3.HS.A.3	Verify and apply geometric theorems as they relate to geometric figures.
CC.2.3.HS.A.13	Analyze relationships between two-dimensional and three-dimensional objects.
CC.2.3.HS.A.14	Apply geometric concepts to model and solve real world problems
CC.2.2.HS.D.9	Use reasoning to solve equations and justify the solution method.

Concepts:	**Competencies:**
- Proofs - Logic - Problem Solving - Parallel and Perpendicular Lines - Congruent Figures - Similarity - Properties of Triangles - Properties of Circles - Area, Volume, Surface Area	Students will be able to… - Apply algebraic skills to solve geometric concepts - Apply the laws of logic to problem solving - Write a geometric proof - Apply the properties of parallel lines - Identify and use congruent figures - Use and apply the properties of similarity - Use right triangles and trigonometric functions to solve problems - Use properties of circles to solve problems - Calculate areas, volumes, and surface areas
Learning Activities:	**Performance Tasks:**
- Collaborative Work/Activities - Guided Notes - Class Discussions - Online Formative Assessments/Activities - Digital Geometric Construction Programs - Guided Practice - Independent Practice - Warm-up Problems	- Unit Assessments - Presentations - Projects

Other Assessment Measures: Homework, Classwork, Presentations, Enrichment Projects

Textbook/Primary Resource: Ron Larson & Laurie Boswell, Geometry, Big Ideas Learning

Supplemental Resource Materials: District-created resources, Online resources