Northern York County School District

Curriculum Overview

Course: 1.03 Geometry	
Grade Level: 9/10/11	
Development/Revision Date: May 2022	**Length of Time:** 180 days

Course Description:

1.03 Geometry is a year-long course designed to provide students with a foundational 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. Geometry is the study of logical reasoning. Points, lines, and planes are used as the building blocks of geometric figures, and as the basic models from which to reason. Emphasis is placed on problem-solving involving algebra skills.

The 1.03 Geometry course will provide students a basic understanding of Geometry to prepare them for enrollment in post-secondary education in a non-mathematics major/field of study, or workplace math skills.

Course Objectives:
- Write Geometric Proofs with scaffolding and word banks (Direct proofs only with word banks)
- Develop Inductive & Deductive reasoning skills
- Comprehend foundational geometric concepts including lines & angles, parallel & perpendicular lines, congruent figures, similarity, and basic right triangle trigonometry
- Strengthen Algebra I skills through geometric topics (with focus on solving equations and fractions)
- Prepare a foundation for students to advance to 1.03 Algebra II, Transition to College Math, and basic collegiate mathematics courses

Foundational Units:
- Basics of Geometry
- Reasoning & Proofs
- Parallel & Perpendicular Lines
- Congruent Triangles
- Relationships within Triangles
- Similarity
- Right Triangles & Trigonometry
- Circumference & Area
- Properties of Polygons

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.
CC.2.2.HS.C.1	Use the concept and notation of functions to interpret and apply them in terms of their context.
CC.2.3.8.A.1	Apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems
CC.2.3.8.A.3	Understand and apply the Pythagorean Theorem to solve problems.

Concepts:	**Competencies:**
- Proofs - Logic - Problem Solving - Parallel and Perpendicular Lines - Congruent Figures - Similarity - Properties of Triangles - Properties of Polygons	Students will be able to… - Apply algebraic skills to solve geometric concepts - Apply the laws of logic to problem solving - 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 - 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