

COURSE DESCRIPTION GEOMETRY

Philosophy Statement: Mathematics instruction has four main functions. First, it equips students to function effectively in an ever-changing world by becoming proficient in computational and communication skills. Second, it enables students to understand and apply mathematical concepts in everyday life. Third, it develops higher-order thinking skills necessary to make a contribution in related fields of study, research, and technology. Finally, it clearly illustrates the order and structure of the world God created.

Objectives: Students will know the properties of, and compute with, rational numbers expressed in a variety of forms. Students will read, write and compare rational numbers, and understand how to differentiate between rational and irrational numbers. Students will calculate with percentages, factor, work with permutations and combinations, multiply and divide exponential values, and represent quantitative values graphically and formulaically. Students will calculate the surface area of three-dimensional objects, and calculate the area and volume of two- and three-dimensional shapes. Students will distinguish between linear and nonlinear functions. Students will use and manipulate Pythagorean Theorem to deepen their understanding of the attributes of figures. Students will begin to utilize the quadratic equation and understand quadratic systems in plotting linear and nonlinear functions on a coordinate plane.

Textbook: Geometry (Glencoe McGraw-Hill, California Edition)

Units of Study: Chapter 1: Tools of Geometry
Chapter 2: Reasoning and Proofs
Chapter 3: Parallel and Perpendicular Lines
Chapter 4: Congruent Triangles
Chapter 5: Relationships in Triangles
Chapter 6: Quadrilaterals
Chapter 7: Proportions and Similarities
Chapter 8: Right Triangles and Trigonometry
Chapter 9: Transformations
Chapter 10: Circles
Chapter 11: Area of Polygons and Circles
Chapter 12: Extending Surface Area
Chapter 13: Extending Volume

Areas to be evaluated: Tests; Quizzes; Homework; Classwork