

GEOMETRY
GRADES 11-12
(2 Semesters - Prerequisite: Successful Completion of
One of the Following: Algebra, Part II or Algebra)

COURSE OVERVIEW:

Beginning with the acquisition of knowledge about geometric figures in a plane and space, geometry develops an understanding of inductive and deductive methods of thinking with proof. Throughout the year problem solving is stressed in applying thinking skills and algebraic processes to mathematical situations. Geometry also includes work with triangles, circles, area, volume, trigonometry, and coordinate geometry.

UNITS OF INSTRUCTION:

- UNIT I - Deductive and Inductive Reasoning
- UNIT II - Segment Relations
- UNIT III - Coordinate Geometry
- UNIT IV - Angle Relations
- UNIT V - Parallel Lines
- UNIT VI - Congruent Triangles
- UNIT VII - Triangle Relationships
- UNIT VIII - Quadrilaterals
- UNIT IX - Proportions
- UNIT X - Similar Triangles
- UNIT XI - Area and Volume
- UNIT XII - Circles
- UNIT XIII - Basic Trigonometry

STUDENT OUTCOMES:

<ol style="list-style-type: none">1.2.3.4.5.6.7.8.9.10.11.12.	<p>Write and speak the language of geometry. (9A, 9B, 9C, 9D)</p> <p>Correctly interpret geometric diagrams. (9A)</p> <p>Write simple two-column proofs. (9C)</p> <p>Understand the characteristics of theorems and the ways in which they can be used in proofs and problem solving situations. (9C)</p> <p>Understand and apply the concept of congruent figures. (9C)</p> <p>Identify and apply the properties of special types of quadrilaterals. (9C)</p> <p>Recognize and apply proportions in similar triangles. (7C)</p> <p>Understand basic concepts relating to planes. (9A)</p> <p>Recognize and apply relationships within and among polygons. (9A, 9B)</p> <p>Be able to use the properties of right triangles and the three basic trigonometric functions. (9D)</p> <p>Recognize and apply theorems and definitions related to circles. (9B, 9C)</p> <p>Understand and apply the concepts of area and volume. (9B)</p> <p>This course addresses the following state standards: 6A, 6C, 6D, 7A, 7B, 7C, 8A, 8B, 8C, 8D, 9A, 9B, 9C, 9D.</p>
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MAJOR LEARNING EXPERIENCES TO ACHIEVE OUTCOMES:

<ol style="list-style-type: none">1.2.3.4.	<p>Keep up with daily reading and homework assignments.</p> <p>Organize and maintain written work including definitions, investigations, theorems, and in-class activities.</p> <p>Be involved in discovering and testing geometric relationships.</p> <p>Students are expected to have a scientific calculator throughout the course.</p>
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ADOPTED TEXT OR PRINCIPAL MATERIALS USED:

<p>Cummings, Kanold, Kenny, Malloy & Yunker. <i>Geometry: Concepts and Applications</i>. New York, NY: Glencoe McGraw Hill, 2001.</p> <p>Scientific or Graphing Calculator required.</p>
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(Rev 07/17/01)
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(05/06/96)