

Joshua Christian High School

Geometry
Curriculum Guide

I. Course Description

This course is based upon the logical structure in which mathematical relationships are proved as well as applied. It will include investigation of the properties and relationships of geometrical figures, both in plane and in space. It includes definitions and theorems for measurement and other applications, inductive versus deductive reasoning, and an introduction to non-Euclidean and coordinate geometry. The emphasis is on understanding geometric principles as well as knowing how to apply them in problem situations.

II. Course Goals & Objectives

Student will:

- A. appreciate the orderliness of God's creation
- B. learn the type of mathematical reasoning that forms Geometry
- C. understand the terms and symbols of Geometry
- D. understand the basics of inductive reasoning and apply it
- E. learn to use tools to construct and measure geometric figures
- F. discover the properties of basic geometrical figures
- G. learn formulas for finding area and volume
- H. understand and utilize the Pythagorean Theorem
- I. prove the major theorems of Euclidean Geometry

III. Course Outline

- A. Building a Geometry Vocabulary
- B. Measure and Congruence
- C. Angle Pairs and Perpendicular Lines
- D. Parallel Lines
- E. Angles of a Polygon
- F. Proving Triangles are Congruent
- G. Applying Congruent Triangles
- H. Geometric Inequalities
- I. Special Quadrilaterals
- J. Ratio, Proportion, and Similarity
- K. The Right Triangle
- L. Circles and Angle Measurement
- M. Chord, Tangent, and Secant Segments
- N. Area and Volume
- O. Coordinate Geometry
- P. Locus and Constructions

IV. Instructional Materials

- A. Textbook - *Geometry - The Easy Way*, Barron's Educational Services, Inc., 1997
- B. Computer Software - *Geometry, High School Advantage*, Encore, 2003
- C. Educational Videos - Library resources

V. Teaching Methods

- A. Concept presentation and demonstration
- B. Daily assignments
- C. Video presentations
- D. Computer utilization for enhancement of skills

VI. Evaluation

- A. Daily assignments
- B. Quizzes & Chapter Tests
- C. Mid term exam
- D. Final exam

VII. Grading Scale

90-100%	=	A
80-89%	=	B
70-79%	=	C
60-69%	=	D
Below 60%	=	F