



Course Syllabus

COURSE TITLE: Geometry

PREREQUISITE: Algebra I

DESCRIPTION: Geometry is the study of the inter-relationships and properties of points, lines, planes, and space figures. Emphasis is placed on systematic and logical reasoning. This course includes the deductive axiomatic method of proof to justify theorems and to determine whether conclusions are valid. The method of justification includes proofs, flow charts, and verbal arguments. Inductive and intuitive approaches are used. Calculators, computers, and graphing utilities will be used where feasible.

MAIN TOPICS: Incorporate the use of technology when appropriate.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.

Construct and judge the validity of a logical argument.

Identify and classify figures using basic definitions, postulates, and theorems.

Perform basic Euclidean constructions using various tools.

Classify and study polygons and their properties.

Prove appropriate theorems.

Apply the properties of right triangles and trigonometry.

Calculate the area and volume of plane and solid figures. Determine how a change in one dimension of an object affects area and/or volume.

Develop and apply the Pythagorean Theorem.

Recognize properties of circles and demonstrate their applications. Write an equation for a circle.

Graph and determine the relationships of figures in the coordinate plane.

Prove triangles congruent and similar.

CREDIT INFO: This course may provide a standard unit of credit for a Standard, Standard Technical, Advanced Technical, or Advanced Studies Diploma.