Manhattan High School P35

Course Title: Geometry **School Year (2017-18)**
Instructor: Mr. E. Torres

Contact Information: Email address: etrm040900@yahoo.com

Course Resources:
Students are required to come to class prepared. Textbooks, pencil, paper, straightedge, ruler, calculator, etc.(These items can be provided by the teacher unless otherwise instructed)

Course Description

This is a one year course to develop and practice problem-solving skills using inductive and deductive reasoning. Students are guided through all the conceptual and working levels of the process using geometry. It uses two and three-dimensional geometric shapes (points, lines, planes, triangles, polygons, circles, and solids) and examines their properties, measurements, and mutual relations in space. Geometric- proofs are used as a vehicle to systematically develop these problem solving skills by relating geometric shapes. Also principles of trigonometry will be implemented.

Course Objective

Students will move on to higher-level math courses with an increased ability to apply algebra to the solution of problems involving measurement, physical relationships, and logical proof.

Learning Standards CC

Geometry course goals are based on Common Core State Standards and the College Readiness Standards. The lessons place emphasis on the standards for mathematical practices.

CCSS.Math.Content.HSG.CO.B.8
Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.

CCSS.Math.Content.HSG.CO.A.1
Know precise definitions of angle, circle, perpendicular line, parallel line, and line

segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.

Term 1: September – January

Chapter 1: - Transformations (Introduction to rigid transformations, Translations, Rotations, Reflections, and Dilations)

Chapter 2: - Congruence (Transformations and Congruence, Triangle Congruence, Theorems Concerning Triangle Properties, Proofs of General Theorems that use Triangle Congruence, and Constructing Bisectors of Lines and Angles).

Chapter 3: - Similarity (Definition of Similarity, Introduction to Triangle Similarity, Solving Similar Triangles, Angle Bisector Theorem, and Solving Problems with Similar and Congruent Triangles).

Chapter 4: - Right Triangles and Trigonometry (Pythagorean Theorem, Pythagorean Theorem Proofs, Special Right Triangles, Introduction to Trigonometry Ratios, eg., sine, cosine, and tangent, Law of Sines and Cosines, and Solving General Triangles).

Term 2: February – June

Chapter 5: - Solid Geometry (Solid Geometry Introduction, Density, Volume and Surface Area of Prisms, Cubes, Cones, Pyramids, Spheres, and Cylinders, and Density word problems).

Chapter 6: - Analytic Geometry (Distance and Midpoint, Dividing Line Segments, Problem Solving with Distance on the Coordinate Plane of Polygons such as area of trapezoid and rhombus, Coordinate Plane Word Problems Polygons).

Chapter 7: - Circles (Circles Basics, Arc Measure, Arc length, Introduction to Radians, Sectors, Inscribed Shapes Problem Solving, Properties of Tangents Area of inscribed Triangle, Standard Equation of a Circle, Expanded Equation of a Circle, Constructing Regular Polygons Inscribed in Circles, Constructing Circumcircles and Incircles, and Constructing a Line Tangent to a Circle).

Evaluation Policy (Grade weighting)

Classwork and Behavior	**25%**
Quiz	**15%**
***Test**	**15%**
Mid-term/Semester Finals	**15%**
Projects/Special Assignments	**15%**
Homework	**10%**
Binder/Notebooks	**5%**

Class Discipline Procedure:

If a student fails to follow any school or class rules, or has difficulty following class expectations or procedures within the class period, the following disciplinary procedure will be followed:

Step 1: Verbal Reminder

Step 2: Written Documentation & Conference with student

Step 3: Parent Notification (via written notice, phone call, voice message, or conference)