Geometry

The following learning targets represent the major concepts studied and assessed in this course.

Semester 1

Unit A
Essentials of Geometry

A1 Construct precise definitions of geometric terms and use the term in written/verbal communication.
A2 Use correct geometric notation and create/interpret diagrams with symbols to represent geometric definitions and relationships.
A3 Use algebraic equations to represent geometric relationships.

Unit B
Parallel and Perpendicular Lines

B1 Determine and justify angle pair relationships using postulates and theorems.
B2 Determine angle pair relationships using algebra.
B3 Verify lines are parallel and perpendicular using geometric definitions, postulates, theorems, and/or constructions.
B4 Verify lines are parallel and perpendicular on the coordinate plane.

Unit C
Transformations

C1 Perform, verify and/or write the rules for translations on figures within or without the coordinate plane, including composite transformations.
C2 Perform, verify and/or write the rules for reflections on figures within or without the coordinate plane, including composite transformations.
C3 Perform, verify and/or write the rules for rotations on figures within or without the coordinate plane, including composite transformations.
C4 Perform, verify and/or write the rules for dilations on figures within or without the coordinate plane including composite transformations.

Unit D
Triangle Congruence

D1 Use CPCTC to solve for missing angle measures and side lengths.
D2 Prove polygons congruent through rigid transformations.
D3 Prove triangles congruent using theorems, rigid transformations and/or constructions.

Unit E
Relationships with Triangles

E1 Use triangle theorems to find interior and exterior angle measurements of triangles.

Semester 2

Unit F
Quadrilaterals and Polygons

F1 Identify polygons by their properties.
F2 Find side lengths and exterior and interior angles of polygons.
F3 Identify a special polygon in a coordinate plane by using slope, distance formula, and/or midpoint formula.

Unit G
Similarity

G1 Use properties and relationships of similarity to justify figures that are similar.
G2 Identify similarity triangle through dilations and the similarity postulates.
G3 Use congruence and similarity of triangles to solve unknown measures.

Geometry

The following learning targets represent the major concepts studied and assessed in this course.

Unit H ***Right Triangle Trigonometry***	**H1** Apply the Pythagorean Theorem and its converse (including simplifying and squaring radicals). **H2** Identify and use special right triangle relationships (including dividing by radical 2 and 3). **H3** Use trigonometric functions to determine side lengths and angle measurements.
Unit I ***Surface Area and Volume***	**I1** Use a variety of models to represent 3-D figures (nets, orthogonal drawings, cross-section, figures formed by transforming 2-D objects). **I2** Calculate the surface area of a 3-D shape using a variety of models. **I3** Calculate the volume of a 3-D shapes using a variety of models.
Unit J ***Properties of Circles***	**J1** Find the measures of central angles, inscribed angles, and arc measures. **J2** Find the area of a sector and the length of an arc. **J3** Develop and write equations of circles.