Department: Math
Revised: April 2017

Mission Statement
Every student can and should learn higher level mathematics. We will provide a variety of instructional methods and relearning opportunities for students to find success.

How We Will Achieve Our Mission
- All students are expected to complete a standards aligned algebra and geometry curriculum.
- All students will be held to a high standard of learning with relearning opportunities and reassessment opportunities available to those who do not meet the standards initially.
- All students will have the opportunity to earn credit at the post-secondary level while completing high school graduation requirements.

Course: Geometry
Terminology, Proof, and Justification

Students understand the terminology used to describe geometric situations as they occur in mathematics and outside the traditional classroom.

Students understand the terminology, design, and notation used in formal proof and are able to complete a proof using these concepts.

Students are able to justify their work with statements of truth, demonstrations, and/or counterexamples.

Parallel Lines, Planes, and Congruent Triangles

Students understand the properties of a triangle and the various methods of classifying triangles.

Students understand the properties of parallel lines and triangles and can use those properties to find missing angles and show lines parallel.

Students understand the properties of polygons and their various classifications.

Students will be able to prove triangles congruent both formally and informally using their knowledge of the given information, postulates, theorems, and their knowledge.

Students will use their knowledge of congruent triangles to prove further properties and congruence.

Quadrilaterals and Coordinate Geometry

Students will be able to find the slope, length , and midpoint of a segment.

Students will be able to graph a line given an equation, students will be able to find an equation of a graphed line, and students will be able to find an equation of a line given two points.

Students will be able to determine what type of quadrilateral a polygon is using given measurements and/or coordinate geometry.

Students will be able to explain and diagram the relationships between quadrilateral types.

Similar Polygons and Right Triangles

Students will be able to determine if figures are similar.

Students will use similar figures to find the length of missing sides, angles, and coordinates.

Students will understand and be able to use the terms associated with right triangles (hypotenuse, opposite leg, adjacent leg, right angle, acute angles, etc).

Students will be able to determine if a triangle is right, obtuse, or acute from angle measures or side lengths.

Students will be able to find missing side lengths and angle measures of triangles using the Pythagorean Theorem and trigonometric ratios.

Students will be able to solve real world problems using the Pythagorean Theorem and trigonometric ratios.

Circle, Chords, Secants, Tangents, and Angles

Students will be able to find and correctly label a circle, its center, secant and tangent lines, chords, radii, diameters, and the interior and exterior of the circle.

Students will be able to find the measure of angles and arcs formed by tangent and secant lines, chords, and radii.

Students will be able to describe a figure as inscribed in or circumscribed about and use the theorems of this chapter to find missing side lengths, arcs, and angles.

Area and Volume

Students will use their knowledge of area, perimeter, and polygons to solve mathematical and real world problems.

Students will use their knowledge of circles, area, and circumference to solve mathematical and real world problems.

Students will use their knowledge of volume and surface area to solve mathematical and real world problems.

Students will combine their geometry and algebra skills to solve application problems.