



Swansea High Freshman Academy

Ensuring Student Performance at the Highest Level

GEOMETRY 2017 - 2018

Mrs. Stirewalt

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This is the Course Syllabus for Algebra 1. Keep this for your records.

What do I need for class every day?

I expect each of you to come to class everyday prepared and with the appropriate materials. You **MUST** bring the following to class everyday:

- Pencil or Pen
- Loose-leaf paper (College-ruled)

How will I be evaluated?

Your final average will be calculated using the following percentages:

1. *Unit/Chapter Tests & Projects – 80%*
2. *Formative Assessments - 20%*

Academic Dishonesty: When cheating, dishonesty, or plagiarizing occurs or is suspected, all students involved will be referred to administration, have their parents/guardians contacted, and receive a 50 for the assignment.

Unit/Chapter Tests: Test are given at the end of each unit. Students will know well in advance of an upcoming unit exam. In addition, a cumulative exam will be given at the end of the year. Students are allowed to retake tests, if they have a three or four on learn checks for what they missed.

Learn Checks: In order to access and ensure student mastery of daily objectives, learn checks will be used periodically to monitor student growth and development. Credit will be awarded based on your demonstrated mastery of the learning objective. Students may retake learning checks, and must have a three or four on a learning check before they are allowed to retake a test.

Homework: Students should expect to have homework most evenings. Math requires a set of skills that must be practiced regularly. Homework is a great way to get that practice. Homework may be graded for completion and/or correctness.

What happens if I miss class?

Simply put, come to class. Regular attendance is essential to success in this class and on all given exams. If you are absent, notes and assignments can be found on the class website, in the daily folders, or from a classmate.

What can I do if I have done poorly on an assignment or an exam?

The best thing to do in this particular situation is to come and talk to me individually before or after school. Do not count on extra credit to improve your grade. If you have an excused absence on the day of a test, that test must be made up before or after school. If the absence is unexcused, you will receive a zero for that test.

What are the rules, procedures, and such?

In addition to the rules in the student handbook, I proudly offer a classroom free of excuses, lying, cheating, stealing, profanity, belittling, cell phones, electronic devices of any kind, drinks without lids, and work from other classes! My rules and expectations are not extensive and are in place for a reason. If you are in violation of them, you are disrupting the learning environment that I have established. While you can make such a choice, I refuse to work in such an environment. With every choice a positive or negative consequence can be expected.

Tardiness: If you are not in the classroom and prepared when the bell rings, you are considered tardy. Your first tardy will be a warning, however subsequent tardies will have consequences as outlined in the student handbook.

Hall Passes: You are allowed five hall passes per semester, not including medical emergencies. If you have extenuating circumstances where you will need to leave class more than five times, speak to me before or after school.

Entering Class:

1. Enter the classroom quietly, check your folder, then grab your calculator and sit down.
2. Put all other belongings away except for those needed for this class.
3. Everyday there will be a bell-ringer question(s) on the board for you to complete. These will be collected and graded periodically so it is important to keep up with them.

Leaving Class:

1. Turn in your exit ticket and any other assignments that are due in class.
2. Put all objects back in their original position, including desks, calculators, and clickers.
3. Pick up trash around your area.
4. Sit and wait patiently. Remember, the bell does not dismiss you, I do.

South Carolina College- and Career-Ready (SCCCR) Geometry

Key Concepts	Standards
Circles	The student will:
	G.GCI.1 Prove that all circles are similar.
	G.GCI.2* Identify and describe relationships among inscribed angles, radii, and chords; among inscribed angles, central angles, and circumscribed angles; and between radii and tangents to circles. Use those relationships to solve mathematical and real-world problems.
	G.GCI.3 Construct the inscribed and circumscribed circles of a triangle using a variety of tools, including a compass, a straightedge, and dynamic geometry software, and prove properties of angles for a quadrilateral inscribed in a circle.
	G.GCI.4 Construct a tangent line to a circle through a point on the circle, and construct a tangent line from a point outside a given circle to the circle; justify the process used for each construction.
	G.GCI.5* Derive the formulas for the length of an arc and the area of a sector in a circle and apply these formulas to solve mathematical and real-world problems.
Congruence	The student will:
	G.GCO.1* Define angle, perpendicular line, parallel line, line segment, ray, circle, and skew in terms of the undefined notions of point, line, and plane. Use geometric figures to represent and describe real-world objects.
	G.GCO.2* Represent translations, reflections, rotations, and dilations of objects in the plane by using paper folding, sketches, coordinates, function notation, and dynamic geometry software, and use various representations to help understand the effects of simple transformations and their compositions.
	G.GCO.3* Describe rotations and reflections that carry a regular polygon onto itself and identify types of symmetry of polygons, including line, point, rotational, and self-congruence, and use symmetry to analyze mathematical situations.
	G.GCO.4* Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
	G.GCO.5* Predict and describe the results of transformations on a given figure using geometric terminology from the definitions of the transformations, and describe a sequence of transformations that maps a figure onto its image.
	G.GCO.6* Demonstrate that triangles and quadrilaterals are congruent by identifying a combination of translations, rotations, and reflections in various representations that move one figure onto the other.
	G.GCO.7* Prove two triangles are congruent by applying the Side-Angle-Side, Angle-Side-Angle, Angle-Angle-Side, and Hypotenuse-Leg congruence conditions.
	G.GCO.8* Prove, and apply in mathematical and real-world contexts, theorems about lines and angles, including the following: <ol style="list-style-type: none"> a. vertical angles are congruent; b. when a transversal crosses parallel lines, alternate interior angles are congruent, alternate exterior angles are congruent, and consecutive interior angles are supplementary; c. any point on a perpendicular bisector of a line segment is equidistant from the endpoints of the segment; d. perpendicular lines form four right angles.
	G.GCO.9* Prove, and apply in mathematical and real-world contexts, theorems about the relationships within and among triangles, including the following: <ol style="list-style-type: none"> a. measures of interior angles of a triangle sum to 180°; b. base angles of isosceles triangles are congruent; c. the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; d. the medians of a triangle meet at a point.
	G.GCO.10* Prove, and apply in mathematical and real-world contexts, theorems about parallelograms, including the following: <ol style="list-style-type: none"> a. opposite sides of a parallelogram are congruent; b. opposite angles of a parallelogram are congruent; c. diagonals of a parallelogram bisect each other; d. rectangles are parallelograms with congruent diagonals; e. a parallelogram is a rhombus if and only if the diagonals are perpendicular.
G.GCO.11* Construct geometric figures using a variety of tools, including a compass, a straightedge, dynamic geometry software, and paper folding, and use these constructions to make conjectures about geometric relationships.	

Geometric Measurement and Dimension	The student will:	
	G.GGMD.1*	Explain the derivations of the formulas for the circumference of a circle, area of a circle, and volume of a cylinder, pyramid, and cone. Apply these formulas to solve mathematical and real-world problems.
	G.GGMD.2	Explain the derivation of the formulas for the volume of a sphere and other solid figures using Cavalieri's principle.
	G.GGMD.3*	Apply surface area and volume formulas for prisms, cylinders, pyramids, cones, and spheres to solve problems and justify results. Include problems that involve algebraic expressions, composite figures, geometric probability, and real-world applications.
	G.GGMD.4*	Describe the shapes of two-dimensional cross-sections of three-dimensional objects and use those cross-sections to solve mathematical and real-world problems.
Expressing Geometric Properties with Equations	The student will:	
	G.GGPE.1*	Understand that the standard equation of a circle is derived from the definition of a circle and the distance formula.
	G.GGPE.4*	Use coordinates to prove simple geometric theorems algebraically.
	G.GGPE.5*	Analyze slopes of lines to determine whether lines are parallel, perpendicular, or neither. Write the equation of a line passing through a given point that is parallel or perpendicular to a given line. Solve geometric and real-world problems involving lines and slope.
	G.GGPE.6	Given two points, find the point on the line segment between the two points that divides the segment into a given ratio.
	G.GGPE.7*	Use the distance and midpoint formulas to determine distance and midpoint in a coordinate plane, as well as areas of triangles and rectangles, when given coordinates.
Modeling	The student will:	
	G.GM.1*	Use geometric shapes, their measures, and their properties to describe real-world objects.
	G.GM.2	Use geometry concepts and methods to model real-world situations and solve problems using a model.
Similarity, Right Triangles, and Trigonometry	The student will:	
	G.GSRT.1	Understand a dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged. Verify experimentally the properties of dilations given by a center and a scale factor. Understand the dilation of a line segment is longer or shorter in the ratio given by the scale factor.
	G.GSRT.2*	Use the definition of similarity to decide if figures are similar and justify decision. Demonstrate that two figures are similar by identifying a combination of translations, rotations, reflections, and dilations in various representations that move one figure onto the other.
	G.GSRT.3*	Prove that two triangles are similar using the Angle-Angle criterion and apply the proportionality of corresponding sides to solve problems and justify results.
	G.GSRT.4*	Prove, and apply in mathematical and real-world contexts, theorems involving similarity about triangles, including the following: <ul style="list-style-type: none"> a. A line drawn parallel to one side of a triangle divides the other two sides into parts of equal proportion. b. If a line divides two sides of a triangle proportionally, then it is parallel to the third side. c. The square of the hypotenuse of a right triangle is equal to the sum of squares of the other two sides.
	G.GSRT.5*	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.
	G.GSRT.6*	Understand how the properties of similar right triangles allow the trigonometric ratios to be defined and determine the sine, cosine, and tangent of an acute angle in a right triangle.
	G.GSRT.7	Explain and use the relationship between the sine and cosine of complementary angles.
G.GSRT.8*	Solve right triangles in applied problems using trigonometric ratios and the Pythagorean Theorem.	
Interpreting Data	The student will:	
	G.SPID.1*	Select and create an appropriate display, including dot plots, histograms, and box plots, for data that includes only real numbers.
	G.SPID.2*	Use statistics appropriate to the shape of the data distribution to compare center and spread of two or more different data sets that include all real numbers.
	G.SPID.3*	Summarize and represent data from a single data set. Interpret differences in shape, center, and spread in the context of the data set, accounting for possible effects of extreme data points (outliers).

Syllabus Acknowledgement and Information Sheet

I have read the above syllabus and agree to adhere to all policies and procedures contained within. As a student of Swansea High School, I also agree to follow all school rules and do my best every day.

Student Name (Print): _____ Period: _____

Student Signature: _____ Date: _____

“I have read thoroughly the contents of this syllabus and discussed with my child the expectations of him/her in this course.”

Parent/Guardian Name (Print): _____

Parent/Guardian Signature: _____ Date: _____

Please provide any additional information that you believe pertinent to your child’s success in class:





Classroom Expectations: **The 5 P's of Success**

Prompt

Arrive on-time.

Prepared

Bring all required materials daily.

Positive

Welcome opportunities and challenges
with an open mind.

Polite

Respect the learning process, the
teacher, your peers, and property
at all times.

Participate

Engage in learning activities
from bell to bell.

