



## Course Syllabus

Franklin High School	2020-2021
<b>DIRECTIONS:</b> For each course, complete the syllabus and share with your evaluating/supervising administrator <b>as a pdf</b> (“File-download-PDF document”) by 9/28/20. Syllabi will be posted on the FHS website under your name for the public to view.	
<b>Course Overview</b>	
<b>NOTE:</b> For core classes, all elements of this section (except for name and contact information) are the same.	
Course Title: Geometry	
Instructor Name: Robert Haserot	Contact Info: rhaserot1@pps.net
Grade Level(s): 9, 10	
Credit Type: (i.e. “science”, “elective”) mathematics	# of credits per semester: 1
Prerequisites (if applicable):	
General Course Description: The course is structured around problems and investigations that build the conceptual understanding of geometric topics and an awareness of connections.	
Emphasis will be placed on specific topics as they are considered more essential for further studies in mathematics. Transformations, Lines and Angles, Trigonometry, Coordinate Geometry, Circles, and Probability are all topics that will have stronger emphasis during this class.	
Prioritized National/State Standards:	
<u>HSG-CO.D. Make geometric constructions</u>	
<u>HSG-CO.A. Experiment with transformations in the plane</u>	
<u>HSG-CO.B. Understand congruence in terms of rigid motions</u>	
<u>HSG-SRT.A. Understand similarity in terms of similarity transformations</u>	
<u>HSG-CO.A. Experiment with transformations in the plane</u>	
<u>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.</u>	
<u>HSG-CO.B. Understand congruence in terms of rigid motions</u>	
<u>HSG-CO.B.7. Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.</u>	
<u>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.</u>	
<u>HSG-SRT.A. Understand similarity in terms of similarity transformations</u>	
<u>HSG-SRT.A.2. Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the</u>	



meaning of similarity for triangles as the equality of all pairs of angles and the proportionality of all pairs of sides.

HSG-SRT.A.3. Use the properties of similarity transformations to establish the AA criterion for similarity of triangles.

HSG-SRT.C. Define trigonometric ratios and solve problems involving right triangles

HSG-SRT.C.6. Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.

HSG-SRT.C.8. Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.

HSG-GPE.B.6. Find the point on a directed line segment between two given points that divide the segment in a given ratio.

HSG-GPE.B.7. Use coordinates to compute perimeters of polygons and areas for triangles and rectangles, e.g. using the distance formula.

HSG-CO.A. Experiment with transformations in the plane

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.

HSG-C.A. Understand and apply theorems about circles

HSG-C.A.2. Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.

HSG-C.B. Find arc lengths and areas of sectors of circles

HSG-GMD.A. Explain volume formulas and use them to solve problems

HSG-GMD.A.3. Use volume formulas for cylinders, pyramids, cones and spheres to solve problems.

HSG-GMD.B.4. Identify cross-sectional shapes of slices of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.

HSG-MG.A. Apply geometric concepts in modeling situations

<b>Course Details</b>
<i>Learning Expectations</i>
Materials/Texts
<p>Course Content and Schedule: Course description: During this course, students will learn about the following topics:</p> <ol style="list-style-type: none"> <li>1. Constructions</li> <li>2. Transformations</li> <li>3. Lines and angles</li> <li>4. Congruence and similarity</li> <li>5. Trigonometry</li> <li>6. Coordinate geometry</li> <li>7. Circles</li> <li>8. Solids</li> </ol> <p>Emphasis will be placed on specific topics as they are considered more essential for further studies in mathematics. Transformations, Lines and Angles, Trigonometry, Coordinate Geometry, Circle</p>
<p>Differentiation/accessibility strategies and supports (TAG, ELL, SpEd, other): Leveled, standards-based assessments with clear benchmarks for C-, B- and A-level work. Flexible timeline for demonstrating proficiency. Multiple attempts to retake and/or revise assessments. Honors credit available for interested students. Clearly posted and chunked agenda, daily learning target(s) and content vocabulary. Investigative, problem-based curricular model to attend to CCSS Mathematical Practices of 'making sense of problems and persevere in solving them'; 'Reason abstractly'; and 'look for and make use of structure,' for example. Explicit instruction using guided notes and teacher-provided notes.</p>
Safety issues and requirements (if applicable):
<p>Classroom norms and expectations: Students and teacher are expected to be respectful of each other at all times. Students are also expected to work both independently and collaboratively in study teams. Students and teachers will refer to the Franklin High School Student Climate Guide.</p>
<i>Evidence of Course Completion</i>
<p>Assessment of Progress and Achievement: <i>Grades should be based on the student's demonstration of understanding of the standards.</i></p> <p>Standard Grading Scale: 90-100% - A 80-89% - B</p>

70-79% - C  
60-69% - D  
59- below - F

Daily quiz (formative assessment). Flexible timeline for demonstrating proficiency. Multiple attempts to retake and/or revise tests (summative assessments). Students can use notes on tests.

Grades will be weighted as follows:  
Tests (summative assessments): 90%  
Classwork/Quizzes (formative assessments): 10%

Progress Reports/Report Cards (what a grade means):  
*Grades should be based on the student's demonstration of understanding of the standards.*

Leveled, standards-based assessments with clear benchmarks for C (basic), B and A (advanced) level work.

Career Related Learning Experience (CRLEs) and Essential Skills:

**Communication with Parent/Guardian**

What methods are used to communicate curriculum, successes, concerns, etc.?

Teacher will use email to connect, share successes, curriculum and concerns.

**Personal Statement and other needed info**