Course Syllabus

Franklin High School	2020-2021
DIRECTIONS: For each course, complete the syllabus and share with your evaluating/supervising administrator **as a pdf** ("File-download-PDF document"). Syllabi will be posted on the FHS website under your name for the public to view.	
Course Overview	
NOTE: For core classes, all elements of this section (except for name and contact information) are the same.	
Course Title: Geometry 1/2	
Instructor Name: Trevor Butenhoff	Contact Info: tbutenho@pps.net
Grade Level(s): 9	
Credit Type: (i.e. "science", "elective") mathematics	# of credits per semester: 1
Prerequisites (if applicable):	
General Course Description:In this course, students will explore more complex geometric situations and deepen their explanations of geometric relationships, moving towards formal mathematical arguments. Areas of focus will be transformations, congruence, similarity, right triangles, trigonometry, and circles. In addition, students may build on probability concepts from the middle grades by expanding their ability to compute and interpret theoretical and experimental probabilities for compound events, attending to mutually exclusive events, independent events, and conditional probabilities. Students will use a variety of online Geometry tools, including but not limited to: GeoGebra, desmos...	
Prioritized National/State Standards:	

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-CO.B. Understand congruence in terms of rigid motions

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.

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.

HSG-SRT.A. Understand similarity in terms of similarity transformations

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

HSG-MG.A.2. Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).

Course Details

Learning Expectations

Materials/Texts

Canvas classroom

Online applications

Course Content and Schedule:

Unit 0: Soft start social-emotional learning

Unit 1: Constructions

Unit 2: Transformations

Unit 3: Lines and Angles

Unit 4: Congruence and Similarity Unit 5: Trigonometry

Unit 6: Coordinate Geometry

Unit 7: Circles

Unit 8: Solids

Unit 9: Probability

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. Clearly posted and chunked agenda, daily learning target(s) and content vocabulary. Honors credit available to those who are interested. 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.

Safety issues and requirements (if applicable):

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.

Evidence of Course Completion

Assessment of Progress and Achievement:
Grades should be based on the student's demonstration of understanding of the standards.

Standard Grading Scale:
90-100% - A
80-89% - B
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): 100%
Assignments and Quizzes (formative assessments): 0%

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, Remind App and texts to connect, share successes, curriculum and concerns.
Personal Statement and other needed info
Welcome to Geometry! I look forward to working with you all this year! I am available on Remind and through email if you have any questions.