

Geometry

Spaulding High School
2021-2022 Course Syllabus

Course Title: Geometry

Department: Mathematics

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Course Description:

In Geometry, students examine such topics as area, volume, geometric constructions, triangle properties, different forms of reasoning, similarity, and trigonometry. The examination of these topics is embedded in real-life situations such as surveying and architecture. This includes investigations, where students use inductive reasoning to form their own understanding of the mathematical concept. A potential geometry student should be skilled in basic computation and algebra skills and have the willingness and ability to read, listen, and think. Geometry students must also work in groups and independently, and complete daily assignments to be successful.

Topics/Areas of Study/Units of Study:

- Introduction to Geometry: Definitions and Angles
- Congruence
- Quadrilaterals
- Circles
- Constructions and Points of Center
- Similar Figures
- Trigonometry
- Volume
- Coordinate Geometry
- Transformations

Materials/Text(s):

- Pencils
- Composition book
- A scientific calculator will be sufficient for this course, **do NOT rely on using your phone**
- Lined paper, Graph paper
- Ruler, [Compass](#), Protractor
- 2 ½ in. binder
- Chromebook

Replacement cost(s): No Text given out - but upon request, you may sign one out. \$65 replacement cost.

Practice:

The practice will be done in-class and on your own. Assignments will be posted in Google Classroom. **DO NOT FALL BEHIND.**

Assessment/Reassessment:

Expect that assessments will be done **either** on paper or by online submission. This method could change from unit to unit, assessment to assessment, including reassessments.

Reassessments will require additional practice and preparation. Students will be assigned those, but are responsible for keeping track of it themselves. They will have explicit instructions.

At the end of the semester there is a call back period for recovering missing indicators. Expect that you will be required to have **3 or fewer** required indicators remaining in order to be invited to call back sessions/day.

Safety protocols (these may change over the course of the year):

- When mandated by the school, masks **must** be worn at all times covering both mouth and nose.
 - You may remove momentarily to sip water or have a snack.
 - Failure to comply will result in being sent to the office.
- At the end of class, you will need to wipe down your desk and chair before leaving.
- Don't leave any possessions in classrooms.
- One person to the bathroom at a time: sign out, take a pass.

Academic Expectations

- Be on time for class
- Be Respectful in person and online. Not being respectful will result in a warning. If it continues, then a write up will follow.
- If there needs to be remote sessions, students will be expected to have their cameras on to help ensure the most communication and connection possible.
- Bring your chromebook to class. We will be using it to supplement learning, but they should be put away unless otherwise requested.
- Cell phones are to remain either out of sight or in the back of the room in the "CELL PHONE Condominium". If there is ever a time for cell phone use in class, I'll let you know. NO earbuds/headphones and smart watches must be removed for assessments. Smart watch distractions can also result in requests for putting them out of sight.
- If you are going to be absent from class I expect you to go to the google classroom to get the notes and the homework assignment. Please contact me if you're confused about the material.
- Join the Google Classroom, class code: 6lqrlr
- Keep Google Classroom notifications turned **ON**.
- Every student is expected to make mistakes, but to succeed, students must learn from them.
- Students are expected to work with peers (appropriately distanced according to current district-wise expectations) and teachers within the class respectfully and productively. If you want to work together.
- If you find you're struggling with the content, I expect you to reach out to me so I can either arrange a time for us to talk or arrange some tutorial times for you in Tide Pool.
- Cheating could result in inability to earn Exemplary in the class. **Using phone/math apps IS CHEATING!**

List of Assessed Course Standards:

(see separate sheet to see the Performance Indicators for each standard)

- Prove and Apply Geometric Properties
- Geometric Constructions
- Right Triangle Trigonometry
- Circle Properties
- Volume
- [Modeling]

Math Tutorial Schedule:

Mon	Tues	Wednesday	Thurs	Fri
AM: 7:05-7:35 Moore - 200	AM: 7:05-7:35 Moore - 200	AM: 7:05-7:35 Moore - 200	AM: 7:05-7:35 Moore - 200	AM: 7:05-7:35 Moore - 200
PM: 3:05-3:35 Dunlea - 101		PM: 3:05-3:35 Dunlea - 101	PM: 3:05-3:35 Dunlea - 101	PM: 3:05-3:35 Dunlea - 101

This is a living document and changes can happen as situations change.

CC Geometry Standards Checklist 21-22 (Semester 1)

Standards		Code	Indicators	Proficiency	
A. Prove and apply geometric theorems	P	1.	Solve to find angles in parallel lines		
	P	2.	successfully recognize triangle congruence shortcuts and name congruent triangles		
	P	3.	apply properties of special quadrilaterals to find sides and angles.		
	P	4.	recognize similar triangles and use those properties to calculate side lengths and angles		
	P	5.	Use algebra and coordinates to calculate parallel/perpendicular slopes, and find the midpoint of a segment		
	P	6.	write an equation for a circle, calculate distance of a segment		
	E	7.	name the correct property used to calculate angles		
	E	8.	correctly write two column proofs including CPCTC		
	E	9.	correctly use proportions related to angle bisectors and parallel lines		
	E	10.	Use coordinate geometry to determine types of polygons or tell if a point is on a circle given the equation		
B. Geometric construction	P	1.	Copy a segment		
	P	2.	Construct an equilateral triangle		
	P	3.	Copy an angle		
	P	4.	Construct a perpendicular bisector		
	P	5.	Construct a perpendicular to a point not on a line (Altitude)		
	P	6.	Construct parallel lines		
	P	7.	Construct an angle bisector		
	E	8.	Copy/construct triangles and quadrilaterals		
	E	9.	Can construct angle combinations of 90° and 60° , i.e. 112.5°		
	E	10.	Construct incenter and inscribed circle		
	E	11.	Construct circumcenter and circumscribed circle		
	E	12.	Complete circle constructions such as a tangent line		
C★ Trigonometry	P*	1.	Label sides opposite, adjacent, and hypotenuse and choose appropriate trigonometric function, and set up ratios		
	P*	2.	Solve trigonometric ratios algebraically for side lengths		
	P*	3.	Use inverse trig functions		
	E	4.	Angle of elevation and depression		

D. Understand and apply theorems about circles	P*	1.	★ Find and apply measures of diameter, radii, chords		
	P	2.	Use properties of tangents to find lengths and angles		
	P	3.	Find and apply measures of arc measure, inscribed angles and central angles.		
	E	4.	Calculate arc length		
	E	5.	Find radius/diameter given arc length		
F. Understand and use volume formulas	P*	1.	★ Calculate volume given dimensions		
	E	2.	Calculate dimensions given volume		
	E	3.	Use ratios to determine area and volume of similar shapes		
G. Apply geometric concepts in modeling situations	P	1.	Plan: Create a viable plan. Include sketch and reasoning		
	P	2.	Execution: Process follows plan set in G1 and is reasonable. All work is shown. Answer is reasonable		
	E	3.	Conclusion: Answer is correct. Draw conclusions and interpret in context.		

*In order to receive credit for Geometry, students must be proficient in **C, D1, F1**.

Spaulding High School Overall Course Performance Grading Guideline

COURSE PERFORMANCE RATING	GPA Value	GRADING CRITERIA
Exemplary	4.0	<ul style="list-style-type: none"> • All standards are Exemplary or Proficient, AND • Majority of standards are Exemplary
Partially Exemplary	3.5	<ul style="list-style-type: none"> • All standards are Exemplary or Proficient, with at least one standard being Exemplary
Proficient	3.0	<ul style="list-style-type: none"> • All standards are Proficient
Partially Proficient	2.5	<ul style="list-style-type: none"> • All required standards are Exemplary or Proficient, AND • Majority of standards are Proficient, AND • No standards are Beginning or No Evidence
Developing	2.0	<ul style="list-style-type: none"> • Majority of standards are Developing.
Beginning	1.0	<ul style="list-style-type: none"> • Majority of standards are Beginning.
No Evidence	0.0	<ul style="list-style-type: none"> • Majority of the standards are No Evidence.

*Honors and AP courses would add an additional 0.33 to the GPA score.

The guideline is used to assess an overall course performance. When the guideline does not completely represent the situation, professional discretion will be used.