

Geometry @ Times² STEM Academy
Mr. Herard Room 204 **Spring 2017 Semester**

Course Information

Goals: Students will gain an understanding of the fundamental ideas of Geometry, its usefulness within mathematics, and its many practical applications.

Available Technology:

It is required that each student obtain a scientific calculator. Students will be told ahead of time on which days these devices are required. Calculators will not be provided to students during class. Students will not be allowed to use a cell phone or similar device in place of a scientific calculator. A simple four-function calculator will not be sufficient.

Students are required to bring their Chromebook to class every day. Assignments using GoFormative.com and GeoGebra will be assigned regularly.

Attendance and Behavior: Disciplinary infractions will be posted regularly to the website www.onsourcesystems.com. Students need to keep this in mind as they make the many decisions that constitute their day-to-day behavior in class.

Any student who misbehaves is liable to receive a demerit or a detention depending on the severity of his or her actions.

Grading Policy: Student grades will be determined according to the following chart.

Grade Component	Weight
Participation (Notes, Textbook, Response Board Exercises)	5%
In Class Exercises	15%
Homework	20%
Formative Activities (goformative.com)	20%
Tests and Projects	40%

Participation:

The following things will be assessed within the participation grade.

- Bringing the assigned textbook to class
- Taking *written* notes in an "ongoing" notebook
- Participating in Response Board Exercises
- Doing Warm-Up exercises on goformative.com and canvas.instructure.com

At the end of each grading period the Participation grade will be determined by adding up the number of points earned and dividing this by the total possible number of points. Students who are absent for any class ARE responsible for making up all such work by completing additional assignments.

Response Activities:

On a regular basis, students will be assigned work on the online assessment platform Formative (goformative.com) .

Homework:

Homework will usually be assigned once per week. Students who turn in their assignment the day after it is assigned will receive 5 bonus points. Students who turn it in the following day will receive regular credit.

Tests and Projects:

Tests will be administered about once every two or three weeks. All students are required to take the midterm exam at the end of the first quarter. Any student who achieves a 93 (A) average on the last day before the start of finals will be exempt from the final exam. Projects will challenge students to apply their skills to tasks aligned more closely with the work of professional developers. Students are expected to give a presentation on their summer reading. Also, students will work on a semester-long project that will involve various web development topics.

Additional Help: The instructor will usually make himself available at least three times per week after school between 2:50 pm and 4:30 pm. Please let him know beforehand when you wish to come in for extra help.

Textbooks:

Glencoe Geometry. Bothell, WA: McGraw Hill, 2014

Schedule:

The following chart gives a tentative schedule of topics. A more specific schedule and assignment list will be made available online on the Google Classroom platform.

Month	Week of	Geometry Topic/Activity
January	30	Fundamental Ideas of Geometry (Point, Line, Plane, Collinear, Coplanar, Segment, Congruent), Algebra Review
February	6	Modeling Geometric Figures with Technology
	13	Probability, Sample Spaces, Independent Events, Dependent Events, Multiplication Property
	22	Pythagorean Theorem, Simplifying Radicals, Multiplying and Dividing Radicals
	27	Angles: Vertex, Acute, Right, Obtuse, Vertical, Complementary, Supplementary, Linear Pair, Vertical Angles
March	6	Midpoint Formula, Distance Formula, Segment Addition Postulate, Angle Addition Postulate
	13	Linear Functions (Equations), Slope of Parallel and Perpendicular Lines
	20	Perimeter of Polygonal Figures, Area (Parallelograms, Rectangles, Squares, Circles), Volume (Rectangular Prisms, Cylinders, Cones, Spheres)
	27	Translations, Reflections, and Dilations
April	3	Inductive Reasoning, Deductive Reasoning, Conditional Statement, Venn Diagrams, Hypothesis, Conclusion, Inverse, Converse, Contrapositive, Negation, Counterexample, Conjunction, Disjunction, Proof, Properties of Equality (Addition, Subtraction, Multiplication, Division, Reflexive, Symmetric, Transitive), Properties of Congruence (Reflexive, Symmetric, Transitive), Law of Detachment, Law of Syllogism
	10	Proofs Involving Segment Lengths and Angle Measures
	24	Parallel Lines Cut by a Transversal, Corresponding Angles, Alternate Interior Angles, Alternate Exterior Angles, Same-Side Interior Angles (Consecutive Angles)
May	2	Proofs Involving Parallel Lines Cut by a Transversal
	8	Special Right Triangles, Triangle Inequality Theorem
	15	Polygons, Interior Angles, Exterior Angles, Polygon Angle Sum Theorem, Regular Polygons, Scalene Triangles, Isosceles Triangles, Equilateral Triangles, Equilateral Triangle Theorem, Isosceles Triangle Theorem, Triangle Exterior Angle Theorem
	22	Ratios and Proportions, Similar Figures
	30	Introduction to Trigonometry: Degrees, Radians, Arc Length, Sector Area, Unit Circle, Core Trigonometric Ratios (Sine, Cosine, Tangent), Inverse Trigonometric Ratios, Right Triangle Trigonometry
June	5	Final Exam Review
	12	Final Exam