

BCAM COURSE OVERVIEW: 2016-17

COURSE TITLE: GEOMETRY

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GRADE: 10TH **ROOM #:** 331 **TEACHER BCAM EMAIL:** MDIALLO@BCAMHS.ORG

COURSE DESCRIPTION: What is an overview and brief description of the course? Why will it be interesting and useful for our students? What will they gain from completing the course?

Geometry introduces the study of points, segments, triangles, polygons, circles, solid figures, and their associated relationships as a mathematical system. Emphasis is placed on the description and use of inductive, deductive, and intuitive reasoning skills. Powers of abstract reasoning, spatial visualization and logical reasoning patterns are improved through this course. Points, segments, triangles, polygons, circles, and solid figures are the structures studied. The focus is on comparisons between these figures concerning surface areas, volumes, congruency, similarity, transformations, and coordinate Geometry. Algebra I skills are used throughout the course.

Students will sit for a NYS Regents Examination at the end of this course.

ENDURING UNDERSTANDINGS: *What are the most important ideas with which you want students to leave your course? What do you want them to understand about your course subject?*

Students will understand that...

- Analyze characteristics and properties of two and three dimensional geometric shapes and develop mathematical arguments about geometric relationships
- Specify locations and describe spatial relationships using coordinate geometry and other representational systems
- Apply transformations and use symmetry to analyze mathematical situations
- Use visualization, spatial reasoning, and geometric modeling to solve problems

SPECIFIC ACADEMIC SKILLS: *these are the most important skills for the course. At the end of this course, students will be able to:*

- Use a ruler and a protractor to make basic geometric constructions
- Classify triangles
- Use visualization to help see the relationship between two figures and connect properties or real objects with two-dimensional drawings of these objects
- Describe transformation geometrically or by coordinates
- Measure some attributes of geometric figures, such as length, area, volume and angle measure and use units to describe these attributes.
- To verify complex truths by reasoning from simpler ones using deductive reasoning
- Describe what is meant for two geometric figures to be similar
- Describe the relationship between corresponding lengths of similar figure and their corresponding areas or volume
- Explain the difference between a coordinate system on a line and a coordinate systems in a plane and use coordinate geometry to solve problems

CCL STANDARDS: *These are the important Common Core Learning Standards (in short form) that will drive the curriculum and connect to units of study and academic skills.*

<i>At the end of this course, students will know:</i>	<i>At the end of this course, students will be able to:</i>
<ul style="list-style-type: none"> Congruence 	<ul style="list-style-type: none"> Experiment with transformations in the plane Understand congruence in terms of rigid motions Prove geometric theorems Make geometric constructions
<ul style="list-style-type: none"> Similarity, Right Triangles, and Trigonometry 	<ul style="list-style-type: none"> Understand similarity in terms of similarity transformations Prove theorems involving similarity Define trigonometric ratios and solve problems involving right triangles Apply trigonometry to general triangles
<ul style="list-style-type: none"> Circles 	<ul style="list-style-type: none"> Understand and apply theorems about circles Find arc lengths and areas of sectors of circles
<ul style="list-style-type: none"> Expressing Geometric Properties with Equations 	<ul style="list-style-type: none"> Translate between the geometric description and the equation for a conic section Use coordinates to prove simple geometric theorems algebraically
<ul style="list-style-type: none"> Geometric Measurement and Dimension 	<ul style="list-style-type: none"> Explain volume formulas and use them to solve problems Visualize relationships between two-dimensional and three-dimensional objects
<ul style="list-style-type: none"> Modeling with Geometry 	<ul style="list-style-type: none"> Apply geometric concepts in modeling situations

UNITS OF STUDY: What are the important content units that you want to cover during the course? The units should be related to the Enduring Understandings.

1. Tools of Geometry	7. Right triangles and trigonometry
2. Reasoning and Proof	8. Transformations
3. Parallel and Perpendicular Lines	9. Area
4. Relationship Within Triangles	10. Surface area and Volume
5. Polygons and Quadrilaterals	11. Circles
6. Similarity	12. Probability

ASSESSMENTS OF SKILLS/STANDARDS: *These are the major formative and summative measures that will be used to assess student progress in the course.*

<ul style="list-style-type: none"> Mathematics journal entries
<ul style="list-style-type: none"> Daily homework assignments
<ul style="list-style-type: none"> Weekly quizzes
<ul style="list-style-type: none"> End of unit examinations
<ul style="list-style-type: none"> Exit Tickets
<ul style="list-style-type: none"> Culminating end of unit projects

TEXTS/MEDIA: *This is a sampling of texts, media, and resources that will be covered/utilized in the course*

- 1) Textbook: Pearson Geometry Common Core
 - 2) Geometer Sketchpad
 - 3) LCD projector
 - 4) PowerPoint designed lesson presentations
 - 3) Teacher designed worksheets
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COURSE RULES AND GUIDELINES: *These are the mechanisms that will manage the class and if followed result in student success for this course.*

1. Be on Time

You are expected to be in class on time. No excuses!!

2. Come prepared and ready to learn

You must make sure that you have a pencil and loose leaf in your binder at all times. I will provide you with binders. In addition to that, bring your focus and “A” game in class

3. No electronics devices in class

All electronic devices should be kept in your locker. This includes but not limited to cell phones, video games, video recorders, email devices, walkman, cd players, and ipods. Anything that has the potential of distracting you or your peers from learning should not be brought to class.

4. Be respectful

Don't speak out of turn and respect/listen to others while they speak. Do not disturb the class because it will be taking away time from others' learning experience. Cussing or clowning in the classroom is prohibited because it violates BCAM values and beliefs. Respect your teachers and appreciate their efforts because they are here to help you. Do your best to keep the classroom clean at all times.

COURSE HOMEWORK POLICY: *This is an overview of homework distribution schedule and the process for completion and collection.*

Homework contributes a lot to students' understanding and success in this class. It is given to ensure that you are confident in your ability to communicate well in mathematics. Therefore, Homework which represents 25% of students' grade, is given and collected almost daily.
