Geometry
Course Syllabus 2017-2018

Geometry Overview

Congruence

- Experiment with transformations in the plane
- Understand congruence in terms of rigid motions
- Prove geometric theorems
- Make geometric constructions

Similarity, Right Triangles, and Trigonometry

- 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

Circles

- Understand and apply theorems about circles
- Find arc lengths and areas of sectors of circles

Expressing Geometric Properties with Equations

- Translate between the geometric description and the equation for a conic section
- Use coordinates to prove simple geometric theorems algebraically

Geometric Measurement and Dimension

- Explain volume formulas and use them to solve problems
- Visualize relationships between two-dimensional and three-dimensional objects

Modeling with Geometry

- Apply geometric concepts in modeling situations

Student Expectations - Best Mathematical Practices

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

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Grading

Grades will be based on a total point system:

Tests: 100 points (1-2 per marking period)

Quizzes: Will average about 10 points each (2-4 per marking period)

Homework: 20-40 points per collection, depending on how many assignments between collections. Each homework assignment will be worth 5 points (homework folder will be collected periodically to determine homework scores.)

Warm-Up participation and Progress Monitoring Test (PMT): up to 8 extra credit points per PMT

Eureka Math Purpose

Eureka Math connects math to the real world in ways that take the fear out of math and build student confidence—while helping students achieve true understanding lesson by lesson and year after year.

The team of teachers and mathematicians who wrote *Eureka Math* took great care to present mathematics in a logical progression from PK through Grade 12. This coherent approach allows teachers to know what incoming students already have learned and ensures that students are prepared for what comes next. When implemented faithfully, *Eureka Math* will dramatically reduce gaps in student learning, instill persistence in problem solving, and prepare students to understand advanced math.

Text (available for check out and used as a reference tool)

Geometry, Grades 9-12: Mcdougal Littell High School Math (McDougal Littell High Geometry) 2004

Focused Instructional Model (FIM)

Daily warm ups compiled from the most important Geometry skills (as chosen by the math department at RHS) will be delivered and assessed every two weeks. These are a vital aspect of our program and participation is mandatory. These are graded on a participation basis and are one of the rare opportunities to earn extra credit points in this class. While the Progress Monitoring Tests are graded, it is only for the purpose of measuring growth, and students will earn points for their effort.

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Tentative Pacing

Semester #1

Geometry • Module 1
Congruence, Proof, and Constructions

Geometry • Module 2
Similarity, Proof, and Trigonometry

Semester #2

Geometry • Module 3
Extending to Three Dimensions

Geometry • Module 4
Connecting Algebra and Geometry Through Coordinates

Geometry • Module 5
Circles With and Without Coordinates

Deviations from the syllabus will undoubtedly occur throughout the school year.

Mr. Kevin Seeger

September 5, 2017