MADISON METROPOLITAN SCHOOL DISTRICT

Syllabus: Geometry

Course Description: Geometry

The purpose of this geometry course is to understand the attributes and relationships of geometric figures which can be applied in diverse contexts. Topics include, but are not limited to, congruence, similarity, right triangle trigonometry, geometric properties of figures, modeling, probability, transformations and constructions. Geometry is devoted primarily to plane Euclidean geometry, studied with and without coordinate systems. This course is aligned to the Common Core State Standards (CCSS) and closely follows the Traditional Pathway, as outlined in Appendix A. The CCSS Mathematical Practice Standards are applied throughout this course.

Department: Mathematics	**Text Website (Resources and Cognitive Tutor)::** https://www.carnegielearning.com/
Course Number: MAT2010	**Instructor:** La Follette HS Math Dept
Credits Earned: 1.0	**Office Hours:**
Prerequisites: Successful completion of Algebra I is suggested	**Instructor Contact Info:**
Required Materials: Carnegie Learning Geometry	**Assignment and Assessment Scores:** Infinite Campus

Course Outline:

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Term 1 or 3

- Exploring tools of formal construction
- Exploring congruence and rigid motions
- Proving geometric theorems
- Exploring transformation
- Experiment with transformations
- Applying geometric concepts using coordinate plane
- Proving geometric theorems

Term 2 or 4

- Exploring similarity and transformation
- Applying geometric concepts using coordinate plane
- Exploring right triangles and the Pythagorean theorem
- Exploring theorems about Circles
- Exploring arc lengths and arc sectors
- Exploring relationships between two and three-dimensional shapes
- Exploring conditional probability

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Standards/Learning Targets:

- G.CO.A Experiment with transformations in the plane
- G.CO.B Understand congruence in terms of rigid motions.
- G.CO.C Prove geometric theorems.
- G.CO.D Make geometric constructions.
- G.MG.A Apply geometric concepts in modeling situations.
- G.GPE.B Use coordinates to prove simple geometric theorems algebraically.
- G.SRT.A Understand similarity in terms of similarity transformations.
- G.SRT.B Prove theorems involving similarity.
- G.SRT.C Define trigonometric ratios and solve problems involving right triangles.
- G.C.A Understand and apply theorems about circles.
- G.C.B Find arc lengths and areas of sectors of circles.
- G.GPE.A Translate between the geometric description and the equation for a conic section.
- G.GMD.A Explain volume formulas and use them to solve problems.
- G.GMD.B Visualize the relation between two-dimensional and * three-dimensional objects.
- S.CP.A Understand independence and conditional probability and use them to interpret data.
- S.CP.B Use the rules of probability to compute probabilities of compound events in a uniform probability
  model.

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

Grading Policy:

A: 90% - 100% **B**: 80% - 89.9% **C**: 70% - 79.9% **D**: 60% - 69.9%

There are three components that contribute to your term grade:

1. **Assessment** (64%)

Your assessment grade includes scores on tests, quizzes, problems sets, and projects. We will typically have a test at the conclusion of each chapter and unit. Often a quiz will be given halfway through a chapter.

2. **Daily Work, Classroom Activities, & possibly Cognitive Tutor** (16%)

Daily work questions are intended to extend learning as well as practice previously learned concepts. Daily work is the place for you to make and learn from mistakes. On most days class time will be available for individual or small groups to begin daily work. Cognitive Tutor is an online computer software that will reinforce skills learned in class.

3. **Term exam** (20%)

Each term will conclude with a cumulative exam.

Deadlines and due dates will be communicated in class. Therefore late work should be avoided. Missing work due must be made up in a timely manner.

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Everyday Supplies:

- Calculator - scientific or graphing calculators are appropriate, cell phone calculators are not to be used
- Notebook or looseleaf paper
- 3 ring binder or folder
- Pencil
- Textbook