

## Course Syllabus

1. Title – Geometry – Honors
2. Text - *Holt McDougal Larson Geometry Common Core Edition* (Larson, Boswell, Kanold, Stiff. Houghton Mifflin Harcourt, 2012)
3. Prerequisites – Teacher recommendation.
4. Course Description

Geometry is a mathematics course that explores plane figures and their relationships. Emphasis is placed on reasoning through the use of deductive proof and problem solving. Major areas included are congruent and similar triangles, quadrilaterals, circles, and area. Topics will be covered in greater depth, and at a faster pace than in standard geometry. Tests are designed to assess both accuracy and efficiency, and thus no extra time is permitted. Technology such as the TI-Nspire will be used to enhance student learning.
5. Course Content
  - a. Semester 1
    - i. Chapter 1 – Essentials of Geometry
    - ii. Chapter 2 – Reasoning and Proof
    - iii. Chapter 3 – Parallel and Perpendicular Lines
    - iv. Chapter 4 – Congruent Triangles
    - v. Chapter 5 – Relationships within Triangles
    - vi. Chapter 6 – Similarity
  - b. Semester 2
    - vii. Chapter 7 – Right Triangles and Trigonometry
    - viii. Chapter 8 – Quadrilaterals
    - ix. Chapter 9 – Properties of Transformations
    - x. Chapter 10 – Properties of Circles
    - xi. Chapter 11 – Measurement of Figures and Solids
6. Course Format

Course material in Geometry Honors will be presented in a variety of instructional methods, including, but not limited to:

  - i. Teacher led lectures
  - ii. Small group discussion
  - iii. Hands-on work with calculators, other technology, and manipulatives
  - iv. Analysis of mathematical tasks
  - v. Class projects
  - vi. Student Presentations
  - vii. Group work
  - viii. Discovery/Problem solving opportunities

## 7. Course Expectations

- a. Students are expected to be active participants in the learning process. This includes participating in class discussions, thinking about questions posed by the teacher and by classmates, constructing viable mathematical arguments, and helping to create an atmosphere that is conducive to learning.
- b. Students are expected to be responsible students. Responsible students are ready to learn throughout class by having required materials, being respectful of others and self, and being focused on mathematics. Students are also expected to complete assigned tasks (homework, class work, and other assignments), and seek extra help from the classroom teacher as needed. Furthermore, responsible students will correct mistakes on homework and quizzes and will do their best to learn for understanding.
- c. Students are expected to show knowledge of all course objectives and apply that knowledge to real world situations. Furthermore, retention of material beyond the unit assessments is necessary. Students are expected to apply previously learned mathematics to new content to strengthen their mathematical understanding. Students will be expected to apply algebraic, numerical, and graphical reasoning to solve problems and explain their reasoning to others.
- d. Students will be asked to synthesize, analyze and evaluate mathematical concepts to create further mathematical ideas.
- e. The TI-Nspire is required.

## 8. Grades

- a. Homework 5%
- b. Quizzes 30-40%
- c. Tests 40-60%
- d. As per department policy, extra credit shall not exceed 2% of the students' grade.

## 9. Mathematical Practice Standards: All Morton High School Students will:

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