**Geometry Honors**

**East Ridge High School - 2016-2017**

**Instructor:** Name: Casey Anderson

 Telephone: (423) 867-6200

 \*Email: candersonsclassroom@gmail.com, anderson\_casey@hcde.org (\*email preferred)

 Available after school on Monday through Thursday from 2:25 – 3:00, Friday from 2:25-2:45, and planning from 9:35-10:55.

**Course Description**

This Geometry course includes an in-depth analysis of plane, solid, and coordinate geometry as they relate to both abstract mathematical concepts as well as real-world problem situations. Topics include logic and proof, parallel lines and polygons, perimeter and area analysis, volume and surface area analysis, similarity and congruence, trigonometry, and analytic geometry. Emphasis will be placed on developing critical thinking skills as they relate to logical reasoning and argument. Students will be required to use different technological tools and manipulatives to discover and explain much of the course content. Honors students will be expected to explore these concepts more deeply and at an accelerated pace.

**Textbook:** Students will be assigned a personal copy of the Geometry textbook. This book is theirs to take home and take notes in but will be required to bring this book to class every day.

**Course Polices**

Absences: Students are expected to be present in class. Students who are absent from class for any reason are responsible for all work missed. Students may have up to *the same number of days missed* before make-up work must be completed and turned in.

Make-up Work: Work not completed in time will be recorded as a “0” in the gradebook on the day it is due. Late assignments will be accepted with a penalty. Make-up work may also take the form of a modified assignment.

Class Rules: Student created commitments are as follows:

1. Always listen and give your attention to the speaker (teacher or student).

2. Bring your textbook and binder every day.

3. Be respectful of others and act appropriately.

4. Use technology for classwork only when asked.

*All students will also be expected to follow the rules outlined in the student handbook.*

Non-compliance with the rules will result in the following consequences:

1. Verbal Warning

2. Move Seats (or Take up Device)

3. Parent Call / Removal from Class

4. Referral to office

Procedures:

 1. Students will enter the classroom in dress code.

 2. Students will turn off and put up cell phones before they enter class.

 3. Students will pick up their assigned calculator from the front as they enter.

 4. Students will be in their seats working on the bellwork before the bell rings, or they will be

 marked tardy to class.

 5. Per school policy, students will not be granted hall passes during class time.

 6. Students will clean their desk, pack their supplies, and return their calculator only after the instructor has verbally closed class.

**Assessments and Grading**

Grading formula for 9-weeks grade:

Students will be assessed with a wide variety of tools and grades assigned using the following formula:

Daily Grades 25% - Homework, Classwork, Groupwork, Participation, Bellwork

Quizzes 25% - Objective, Small Group Exercise

Tests 50% - Objective, Projects

Grading formula for semester grade:

1st Nine Weeks – 50%

2nd Nine Weeks – 50% (TN Ready state exams will count toward 25% of this grade.)

Honors grades will be calculated at the end of the semester with an additional three points added to the student’s final average.

**Course Topics and Schedule by Semester**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Week** | **Semester 1** | **Standard** | **Description** | **Chapter/Activity** |
| 1 | Aug. 11-12 |  | Introduction/ExpectationsReview Concepts: Pythagorean Theorem, triangle classification, triangle inequalities, simplifying radicals |  |
| 2 | Aug. 15-19 | [1](http://www.corestandards.org/Math/Content/HSG/CO/A/1/) | [Define key geometric terms.](https://www.khanacademy.org/math/geometry/tools-of-geometry/geometric-definitions/e/geometric-definitions)  | L 1-1, L 1-2, L 4-1, L 4-2, L 5-1, L 5-2, EA 2 Unit 1 p. 61 |
| [2](http://www.corestandards.org/Math/Content/HSG/GPE/B/6/) | [Directed line segments and ratios.](https://www.khanacademy.org/math/geometry/analytic-geometry-topic/cc-distances-between-points/e/dividing-line-segments) |
| [3](http://www.corestandards.org/Math/Content/HSG/GPE/B/7/) | [Use coordinates to find perimeter and area, including using the distance formula.](https://www.khanacademy.org/math/geometry/analytic-geometry-topic/geometry-problems-coordinate-pla/e/find-area-and-perimeter-on-the-coordinate-plane) |
| [4](http://www.corestandards.org/Math/Content/HSG/CO/D/12/) | [Make formal geometric constructions.](http://www.shmoop.com/common-core-standards/ccss-hs-g-co-12.html) |
| 3 | Aug. 22-26 | [5](http://www.corestandards.org/Math/Content/HSG/GPE/B/5/) | [Prove slope criteria for parallel and perpendicular lines and use them to solve problems.](https://www.khanacademy.org/math/geometry/analytic-geometry-topic/parallel-and-perpendicular/e/line_relationships) | L 8-1, L 8-2, L 3-1,L 3-2, L 6-1, L 6-3,L 7-1, L 7-3,EA 3 Unit 1 p. 99 |
| [2](http://www.corestandards.org/Math/Content/HSG/GPE/B/6/) | [Directed line segments and ratios.](https://www.khanacademy.org/math/geometry/analytic-geometry-topic/cc-distances-between-points/e/dividing-line-segments) |
| [1](http://www.corestandards.org/Math/Content/HSG/CO/A/1/) | [Define key geometric terms.](https://www.khanacademy.org/math/geometry/tools-of-geometry/geometric-definitions/e/geometric-definitions) |
| [6a](http://www.corestandards.org/Math/Content/HSG/CO/C/9/) | [Prove theorems about lines and angles (vertical, alternate interior, corresponding angles)](https://www.khanacademy.org/math/geometry/parallel-and-perpendicular-lines/ang-intro/e/line-and-angle-proofs) |
| [6b](http://www.corestandards.org/Math/Content/HSG/CO/C/9/) | [Prove theorems about lines and angles (points on a perpendicular bisector)](http://www.shmoop.com/common-core-standards/ccss-hs-g-co-9.html) |
| 4 | Aug. 29-Sept. 2 | [7a](http://www.corestandards.org/Math/Content/HSG/CO/A/2/) | [Make and describe transformations as functions (inputs and outputs).](https://www.khanacademy.org/math/geometry/transformations/hs-geo-translations/e/defining-translations) | L 9-1, L 9-2, L 9-3,L 9-4, L 10-1, L 10-2,L 11-1, L 11-2 |
| [7b](http://www.corestandards.org/Math/Content/HSG/CO/A/2/) | [Compare translations to horizontal stretch.](https://www.khanacademy.org/math/algebra2/manipulating-functions/stretching-functions/v/shifting-and-reflecting-functions) |
| [8](http://www.corestandards.org/Math/Content/HSG/CO/A/3/) | [Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.](https://www.khanacademy.org/math/geometry/transformations/hs-geo-reflections/e/defining-reflections) |
| [9](http://www.corestandards.org/Math/Content/HSG/CO/A/4/) | [Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.](https://www.khanacademy.org/math/geometry/transformations/properties-definitions-of-translations/e/qualitatively-defining-rigid-transformations) |
| [10](http://www.corestandards.org/Math/Content/HSG/CO/A/5/) | [Draw a transformed geometric figure by hand or with technology.](https://www.khanacademy.org/math/basic-geo/transformations-congruence-similarity-geo/transformations-basics/e/performing-reflections-on-the-coordinate-plane) |
| [11](http://www.corestandards.org/Math/Content/HSG/CO/B/6/) | [Perform and predict transformations in rigid motion and determine congruence.](https://www.khanacademy.org/math/geometry/congruence/transformations-congruence/e/exploring-rigid-transformations-and-congruence) |
| [12](http://www.corestandards.org/Math/Content/HSG/CO/B/7/) | [Show triangles congruent if corresponding pairs of sides and angles are congruent.](http://www.shmoop.com/common-core-standards/ccss-hs-g-co-7.html) |
| [13](http://www.corestandards.org/Math/Content/HSG/CO/B/8/) | [Explain how ASA, SAS, and SSS follow from definition of congruence in terms of rigid motion.](http://www.shmoop.com/common-core-standards/ccss-hs-g-co-8.html) |
| [14](http://www.corestandards.org/Math/Content/HSG/SRT/B/5/) | [Use congruence criteria for triangles to solve problems and prove relationships in geometric figures.](http://www.shmoop.com/common-core-standards/ccss-hs-g-srt-5.html) |
| 5 | Sept. 6-9 | [11](http://www.corestandards.org/Math/Content/HSG/CO/B/6/) | [Perform and predict transformations in rigid motion and determine congruence.](https://www.khanacademy.org/math/geometry/congruence/transformations-congruence/e/exploring-rigid-transformations-and-congruence) | L 11-3, L 11-4,EA 2 Unit 2 p. 179,Review and ReteachDay |
| [12](http://www.corestandards.org/Math/Content/HSG/CO/B/7/) | [Show triangles congruent if corresponding pairs of sides and angles are congruent.](http://www.shmoop.com/common-core-standards/ccss-hs-g-co-7.html) |
| [13](http://www.corestandards.org/Math/Content/HSG/CO/B/8/) | [Explain how ASA, SAS, and SSS follow from definition of congruence in terms of rigid motion.](http://www.shmoop.com/common-core-standards/ccss-hs-g-co-8.html) |
| [14](http://www.corestandards.org/Math/Content/HSG/SRT/B/5/) | [Use congruence criteria for triangles to solve problems and prove relationships in geometric figures.](http://www.shmoop.com/common-core-standards/ccss-hs-g-srt-5.html) |
| 6 | Sept. 12-16 | [15](http://www.corestandards.org/Math/Content/HSG/CO/C/10/) | [Prove theorems about triangles:180 degrees interior, Isosceles base, Midsegment, Medians.](https://www.khanacademy.org/math/geometry/congruence/triangle-congruence/e/congruent_triangles_1) | L 13-1, L 13-2, L 14-2,L 14-3,EA 3 Unit 2 p. 203,L 15-1, L 15-2, L 15-3,L 15-4 |
| [16](http://www.corestandards.org/Math/Content/HSG/CO/C/11/) | [Prove theorems about parallelograms: opposite sides, angles congruent; diagonals bisect; rectangles have congruent diagonals](http://www.shmoop.com/common-core-standards/ccss-hs-g-co-11.html) |
| [14](http://www.corestandards.org/Math/Content/HSG/SRT/B/5/) | [Use congruence criteria for triangles to solve problems and prove relationships in geometric figures.](http://www.shmoop.com/common-core-standards/ccss-hs-g-srt-5.html) |
| 7 | Sept. 19-23 | [16](http://www.corestandards.org/Math/Content/HSG/CO/C/11/) | [Prove theorems about parallelograms: opposite sides, angles congruent; diagonals bisect; rectangles have congruent diagonals](http://www.shmoop.com/common-core-standards/ccss-hs-g-co-11.html) | L 16-1, L 16-2,L 16-3, 16-4,Review and ReteachDay |
| [14](http://www.corestandards.org/Math/Content/HSG/SRT/B/5/) | [Use congruence criteria for triangles to solve problems and prove relationships in geometric figures.](http://www.shmoop.com/common-core-standards/ccss-hs-g-srt-5.html) |
| [17](http://www.corestandards.org/Math/Content/HSG/GPE/B/4/) | [Use coordinates to prove simple geometric theorems algebraically.](http://www.shmoop.com/common-core-standards/ccss-hs-g-gpe-4.html) |
| 8 | Sept. 26-30 | [7b](http://www.corestandards.org/Math/Content/HSG/CO/A/2/) | [Compare translations to horizontal stretch.](https://www.khanacademy.org/math/algebra2/manipulating-functions/stretching-functions/v/shifting-and-reflecting-functions) | L 17-1, L 17-2, L 17-3,L 18-1, L 18-2, L 18-3,EA1 Unit 3 p.273 |
| [18](http://www.corestandards.org/Math/Content/HSG/SRT/A/1/) | [Verify experimentally the properties of dilations given by a center and a scale factor.](https://www.khanacademy.org/commoncore/grade-HSG-G-SRT) |
| [19](http://www.corestandards.org/Math/Content/HSG/SRT/A/2/) | [Given two figures, use the definition of similarity in terms of similarity transformations to determine if they are similar.](http://www.shmoop.com/common-core-standards/ccss-hs-g-srt-2.html) |
| [20](http://www.corestandards.org/Math/Content/HSG/SRT/A/3/) | [Use properties of similarity transformations to establish AA criterion.](http://www.shmoop.com/common-core-standards/ccss-hs-g-srt-3.html) |
| [21](http://www.corestandards.org/Math/Content/HSG/SRT/B/4/) | [Prove theorems about triangles.](http://www.shmoop.com/common-core-standards/ccss-hs-g-srt-4.html) |
| [14](http://www.corestandards.org/Math/Content/HSG/SRT/B/5/) | [Use congruence criteria for triangles to solve problems and prove relationships in geometric figures.](http://www.shmoop.com/common-core-standards/ccss-hs-g-srt-5.html) |
| [22](http://www.corestandards.org/Math/Content/HSG/MG/A/3/) | [Apply geometric methods to solve design problems.](http://www.shmoop.com/common-core-standards/ccss-hs-g-mg-3.html) |
| 9 | Oct. 3-7 | [21](http://www.corestandards.org/Math/Content/HSG/SRT/B/4/) | [Prove theorems about triangles.](http://www.shmoop.com/common-core-standards/ccss-hs-g-srt-4.html) | L 19-1, L 19-2, L 20-1,L 20-2, L 21-1, L 21-2,Review and ReteachDayEnd of First Quarter |
| [23](http://www.corestandards.org/Math/Content/HSG/SRT/#CCSS.Math.Content.HSG.SRT.C.8) | [Use the Pythagorean Theorem to solve right triangles in applied problems.](http://www.shmoop.com/common-core-standards/ccss-hs-g-srt-8.html) |
| 10 | **Oct. 10-14** |  | Fall Break |  |

2nd 9 Weeks Schedule Forthcoming