Danville High School
2017-18

Course Title: Geometry
Teachers: Jason Brigham, Spencer Morse

Course Description: This course studies the properties and applications of geometric figures in 2 and 3 dimensions. Algebra 1 skills will be utilized throughout the course. The writing of proofs will be taught. Students that successfully complete this course should take Algebra 2 (unless they have already completed Algebra 2, in which case they would move on to Pre-Calculus or Statistics).

Learning Objectives:

- The student will develop and use principles of logic and reasoning.
- The student will use properties of shapes to solve problems.
- The student will choose and use appropriate formulas to solve problems relating to area and volume.
- The student will use concepts of congruence and similarity to solve problems.

Class Schedule

Week	Topic
1	Essentials of Geometry
2	Coordinate Geometry
3	Reasoning and proof
4	Parallel and perpendicular lines
5	Proving Geometric Theorems
6	Constructions
7	Congruent Triangles
8	Quadrilaterals
9	Similarity Concepts
10	Right Triangle Ratios….Trigonometric and Special Right Triangles

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12	Transformations….Rigid and Non-Rigid
13	Circles
14	Circles cont.
15	Properties, Equations, and Models of 2D and 3D objects
16	Properties, Equations, and Models of 2D and 3D objects cont.
17	Final Exam Review

Course Requirements and Policies:

- Electronic equipment not approved for class work should be stowed away for the duration of class time.
- Academic honesty and other behavior in accordance of the school handbook will be expected at all times.
- Active participation in the classroom will be necessary in order to achieve the standards of the course. If absences are foreseeable, please make arrangements with me ahead of time to ensure the impact of the absence is minimized when possible.
- Completing practice work and timeliness with deadlines are integral to your success in meeting the standards of any course. Therefore these behaviors, along with timeliness and class participation, will be tracked under the Habits of Work (H.O.W.) standard for this course and will be included in your grade.. If there is concern about not being able to meet a deadline due to unusual circumstances, please contact me BEFORE the due date for the assignment in question to discuss the matter and make alternative arrangements if deemed appropriate/necessary.
- Grading policies will reflect those of the school adopted Standards-Based/Proficiency-Based grading system and grades will be reported for each of the standards covered. Assessments will be given in the form of traditional quizzes and tests, but students may also show proficiency on a given standard through a variety of means such as projects and activities.

Course Material Requirements:

- Students should be prepared to take notes in class daily, therefor I would recommend a 3-subject notebook or a binder filled with lined paper dedicated to this class.
- Students should bring their laptops to class each day.

- Other general supplies such as pencils, erasers, calculators should be brought to class daily.

Methods of Instruction:
Classes will consist of a blend of lecture and exploratory activities, for both small and whole groups. It is equally important in this course to be able to work independently and with others.

Additional Activities: Activities focused on allowing the students to explore and apply mathematical concepts are embedded into this course frequently.

Standards Assessed:

1. Understands the distinction between rigid and non-rigid transformations and their relationship to congruence and similarity.
2. Make geometric constructions.
3. Prove geometric theorems, including the use of the Cartesian Coordinate Plane.
4. Apply geometric concepts in modeling situations.
5. Understands and uses properties of similarity
6. Define trigonometric ratios and solve problems involving right triangles.
7. Understand and apply theorems about circles.
8. Explain area and volume formulas and use them to solve problems.
9. Applies properties of two-dimensional and three-dimensional objects to solve problems.

Course syllabus details subject to change. Please refer to this document frequently.