Geometry

Mr. Braunberger

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Fall 2018
12:16pm–1:06pm

> I think it is very important–at least it was to me–that if you are going to teach people to make observations, you should show that something wonderful can come from them.

–Richard Feynman

COURSE DESCRIPTION

Geometry is a branch of mathematics concerned with questions of shape, size, relative position of figures, and the properties of a space. Geometry has applications in many fields, including art, architecture, physics, and math.[1] Upon successful completion of this course, the student will, among other things, have developed critical thinking skills and have an appreciation for how geometry is useful in everyday life.

PROCEDURES, MATERIALS, AND EXPECTATIONS

MATERIALS

Everyday, the student is expected to bring to class their issued textbook, a pencil or pen, and a notebook. The student is responsible for the textbook issued to them and any damage it incurs.

EXPECTATIONS

Math is a subject that builds upon itself and therefore requires study on a daily basis. Assignments will be issued daily and are to be completed on time. Late work will be accepted; however, late assignments will be automatically docked 30%. Assignments may be completed in pen or pencil, as long as the assignment is neat.

The course will model mathematical thought: errors are to be expected, discovered, and remedied. Any incorrect answers on homework will be awarded 50% credit if recompleted correctly within a week of receiving the homework.

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[1]Wikipedia

Disciplinary Procedure

I've heard good things about this particular class section, and I don't forsee any major issues. Issues will be handled as they arise.

Grading

Tests and quizzes will be worth 15% of the grade. The final will be worth 20% of the grade. Homework will be worth 65% of the grade.

The Book

We will be using *Core Connections Geometry* by Dietiker and Kassarjian to supplement the course. I have no expectation that the student will read the book, but we will reference it for some homeworks, and the student is encouraged to use it as a learning resource.

Course Outline

Introduction to Geometry

1. Identify, name, and classify figures.

2. Measurement: Distance and midpoint formulas.

3. Perimeter and area.

Reasoning

1. Compare and contrast inductive and deductive reasoning.

2. Conditional statements with emphasis on the converse statement.

3. Two-column proofs.

Parallel and Perpendicular Lines

1. Reasoning skills on parallel and perpendicular lines.

2. Identify angles formed by such lines.

3. Prove theorems about such lines.

Congruent Triangles

1. Classify triangles.

2. Prove triangles congruent.

3. Use theorems about isosceles and equilateral triangles.

Relationships within Triangles

1. Write a coordinate proof.

2. Use relationships within triangles: perpendicular bisectors, angle bisectors, medians, and altitudes.