



Course Overview

High School | Geometry - Last Updated on April 2, 2025

DESCRIPTION

K-12 Content Area | Mission & Philosophy Statement

- With confidence and perseverance, young people can tackle complex and novel mathematical challenges, becoming skilled problem solvers who take ownership over their learning process.
- Young people possess the ability to reason mathematically, make conjectures, solve problems and build understanding through effective dialogue and collaboration.
- Learners exhibit critical inquiry through the deliberate asking of questions and the integration of conceptual understanding, reasoning abilities, and procedural fluency.
- Strategically selecting materials, technology, and other resources support mathematical learning and aid in achieving mathematical goals. (NCTM, 2024)

Course Description

This course uses a formal approach to the structure of geometry as it explores the concepts of proofs and problem-solving. Problem solving strategies will frequently use algebraic rather than numerical methods. Students will be encouraged to explore the relationships among geometry, algebra, and probability as they learn about points and lines, parallelism, similarity, congruence, polygons, special right triangles, and circles.

STANDARDS

Pennsylvania - High School - Keystone Geometry

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|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| G.1.1.1.1 | G.1.1.1.2 | G.1.1.1.3 | G.1.1.1.4 | G.1.2.1.1 | G.1.2.1.2 | G.1.2.1.3 | G.1.2.1.4 |
| G.1.2.1.5 | G.1.3.1.1 | G.1.3.1.2 | G.1.3.2.1 | G.2.1.1.1 | G.2.1.1.2 | G.2.1.2.1 | G.2.1.2.2 |
| G.2.1.2.3 | G.2.2.1.1 | G.2.2.1.2 | G.2.2.2.1 | G.2.2.2.2 | G.2.2.2.3 | G.2.2.2.4 | G.2.2.3.1 |
| G.2.2.2.5 | G.2.2.4.1 | G.2.3.1.1 | G.2.3.1.2 | G.2.3.1.3 | G.2.3.2.1 | | |

COURSE OBJECTIVES

Specific objectives for this course are aligned to the Pennsylvania Core Standards for Mathematics and the Common Core State Standards for Mathematics.



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ASSESSMENT TYPES

The following assessment types will be used during the course:

- Diagnostic Assessments
- Formative Assessments
- Summative Assessments

SUGGESTED METHODS OF INSTRUCTION

Below is a list of suggested strategies for high-quality instruction in Mathematics:

- Instructional components outlined in the *Framework for Teaching* by Charlotte Danielson
- Teacher-Centered Instruction
- Inquiry-Based Learning
- Small Group Instruction
- Cooperative Learning
- Student-Centered/Constructivist Approach
- Project-Based Learning
- Flipped Classroom



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RESOURCES

District Approved Program Resources	District Approved Supplemental Resources	District Approved Technology Resources
<p><i>Geometry</i>. Prentice Hall (2011)</p>	<p>TI-Calculators 84Central Calculator Activities https://education.ti.com/en/84activitycentral/us/geometry Nearpod https://nearpod.com/ Desmos https://www.desmos.com/ Khanacademy https://www.khanacademy.org/math/get-ready-for-geometry https://www.khanacademy.org/math/geometry ixL Online Learning Platform https://www.ixl.com/math/geometry <i>Geometry</i>. Prentice Hall (2011) Digital Resources Geogebra: Interactive Applets https://www.geogebra.org/math/geometry?lang=en https://www.geogebra.org/m/bbg5ukdd Teacher created materials</p>	<p>TI30X Scientific Calculators (with software programs) TI84 Graphing Calculators Available for use</p>