



Course Overview

High School | Honors Algebra II - 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 reinforces and extends the ideas presented in Algebra I and develops detailed approaches to problem-solving situations and mathematical structure. The areas of study include relations and functions, exponents and radicals, systems of linear equations and inequalities, rational expressions, and radical and quadratic equations. Critical thinking skills are extended through the use of a variety of application problems, matrices, complex numbers, higher degree polynomials, and rational exponents are presented.

STANDARDS

Pennsylvania - High School - Keystone Algebra II

- | | | | | | | |
|------------|------------|------------|------------|------------|------------|------------|
| A2.1.1.1.1 | A2.1.1.1.2 | A2.1.1.2.1 | A2.1.1.2.2 | A2.1.2.1.1 | A2.1.2.1.2 | A2.1.2.1.3 |
| A2.1.2.1.4 | A2.1.2.2.1 | A2.1.2.2.2 | A2.1.3.1 | A2.1.3.1.1 | A2.1.3.1.2 | A2.1.3.1.3 |
| A2.1.3.1.4 | A2.1.3.2.1 | A2.1.3.2.2 | A2.2.1.1.1 | A2.2.1.1.2 | A2.2.1.1.3 | A2.2.1.1.4 |
| A2.2.2.1.1 | A2.2.2.1.2 | A2.2.2.1.3 | A2.2.2.1.4 | A2.2.2.2.1 | A2.2.3.1.1 | A2.2.3.1.2 |
| A2.2.3.2.1 | A2.2.3.2.2 | A2.2.3.2.3 | | | | |

COURSE OBJECTIVES

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



Course Overview

High School | Honors Algebra II - Last Updated on April 2, 2025

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



Course Overview

High School | Honors Algebra II - Last Updated on April 2, 2025

RESOURCES

District Approved Program Resources	District Approved Supplemental Resources	District Approved Technology Resources
<p><i>Algebra 2</i>. Prentice Hall (2011). Pearson Publishing</p>	<p>TI-Calculators 84Central Calculator Activities https://education.ti.com/en/84activitycentral/us/algebra-ii Nearpod https://nearpod.com/ Desmos https://www.desmos.com/ Khanacademy https://www.khanacademy.org/math/algebra2 ixL Online Learning Platform https://www.ixl.com/math/algebra-2 <i>Algebra 2 Prentice Hall Resources 2011</i> Geogebra: Interactive Algebra Resources https://www.geogebra.org/m/sp35tmku Teacher created materials</p>	<ul style="list-style-type: none"> • TI-84Plus TI-84CE Graphing Calculators (with software programs) • Apple iPad (Teacher and Students) • Apple TV & Projector • District Approved Technology