

Algebra 2

Course Description:

In Thinkwell Algebra 2, students develop advanced algebraic skills through the extension of algebraic and geometric concepts introduced in prior courses. Topics in Algebra 2 include solving equations, graphing inequalities, and transforming functions. Students will solve systems of linear equations and inequalities. Students will learn to solve, factor, and graph quadratics and polynomials. They will learn to work with matrices, and will learn to solve and apply rational, radical, exponential, and logarithmic functions.

Prof. Edward Burger presents lessons through approximately 20 hours of video lessons. The student's grade is determined by their scores on quizzes (40%), tests (40%), one midterm exam (10%), and one final exam (10%).

Algebra 2 Overview

- **Foundations for Functions**
 - Relations and functions
 - Exponents and scientific notation
 - Parent functions and transformations of functions
 - Linear and absolute-value equations, inequalities, and functions
 - Operations with functions
 - Piecewise functions
 - Modeling real-world data
- **Linear Systems and Matrices**
 - Linear systems of equations and inequalities in two dimensions
 - Linear programming
 - Matrix operations
 - Using matrices to transform figures

- **Quadratic and Polynomial Functions**
 - Properties and transformations of quadratic functions
 - Complex numbers and roots
 - Curve fitting with quadratic and polynomial models
 - Solving quadratic equations and inequalities
 - Operations with polynomial functions
 - Roots and graphs of polynomial functions

- **Exponential and Logarithmic Functions**
 - Exponential functions, growth, and decay
 - Inverses of relations and functions
 - Properties of logarithms
 - Exponential and logarithmic functions and inequalities
 - Curve fitting with exponential and logarithmic models

- **Rational and Radical Functions**
 - Operations with rational and radical expressions
 - Solving rational equations and inequalities
 - Radical expressions and rational exponents
 - Solving radical equations and inequalities

Algebra 2 Course Information:	
Recommended Course Duration	36 weeks
Topics	67
Hours of Video Content	20
Practice Exercise and Worksheet Questions	1800+
Number of Graded Assessments (Quizzes, Tests, & Exams)	26