

# ALGEBRA II SYLLABUS

## **COURSE DESCRIPTION:**

In Algebra II, students will build on the knowledge and skills for mathematics in Kindergarten-Grade 8 and Algebra I. Students will broaden their knowledge of quadratic functions, exponential functions, and systems of equations. Students will study logarithmic, square root, cubic, cube root, absolute value, rational functions, and their related equations. Students will connect functions to their inverses and associated equations and solutions in both mathematical and real-world situations. In addition, students will extend their knowledge of data analysis and numeric and algebraic methods. <https://tea.texas.gov/about-tea/laws-and-rules/sboe-rules-tac/sboe-tac-currently-in-effect/ch111c.pdf>

## **COURSE OBJECTIVES:**

Texas Algebra 2 TEKS objectives include analyzing functions like polynomial, rational, exponential, and logarithmic, understanding their inverses, and solving related equations and inequalities. Students will also work with conic sections, data analysis through regression, and systems of equations, often using technology to visualize and solve problems.

## **COURSE OUTLINE:**

Semester 1	Semester 2
<ul style="list-style-type: none"><li>▪ Analyzing Functions</li><li>▪ Absolute Value Equations and Inequalities</li><li>▪ Quadratic Factoring</li><li>▪ Quadratic Functions</li><li>▪ Quadratic Equations and Inequalities</li><li>▪ Systems of Equations and Inequalities</li><li>▪ Matrices</li></ul>	<ul style="list-style-type: none"><li>▪ Polynomials</li><li>▪ Polynomial Functions</li><li>▪ Polynomial Equations</li><li>▪ Rational Functions</li><li>▪ Exponential Functions</li><li>▪ Logarithmic Properties and Exponential and Logarithmic Functions</li><li>▪ Modeling with Exponential and other Functions</li><li>▪ Conic Sections</li></ul>