Algebra II Scope and Sequence

Algebra II TEKS

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. Students will use technology to build understanding and make connections. It is highly recommended that students have access to a graphing tool, either a calculator or an online option, to work with on a daily basis. To graduate on the Distinguished Level of Achievement and to also be eligible for top 10% automatic college acceptance, the student must take Algebra II. This course satisfies the 3rd or 4th year Mathematics credit.

Scope and Sequence 2025-2026

Semester One	
First 9 Weeks (40 Days)	TEKS Covered
Unit A : Course Introductions and Review (9 Days) Course Syllabus Solving Systems of Two Linear Equations ● Substitution ● Elimination ● Graphing	A.2C,A.5A, A.5C
Unit 1: Solving Systems of Equations (17 Days) Modeling Systems with 3 Variables Solving Systems of 3 Equations using Substitution Introduction to Matrices Gaussian Elimination Solving Systems using Technology Solving Systems of Linear Inequalities	2A.3A, 2A. 3B, 2A.3C, 2A.3D

Linear Programming	
Unit 2 Absolute Value Functions (17 Days) Graphs of Absolute Value Functions Attributes of Absolute Value Functions Transformations of Absolute Value Functions Solving Absolute Value Equations Solving Absolute Value Inequalities	2A.2A, 2A.3A, 2A.3B, 2A, 3E, 2A.3F, 2A.3G, 2A.6C, 2A.6D, 2A.6E, 2A.6F, 2A.7I,
Second 9 Weeks (42 Days)	
Unit 3: Quadratic Equations (20 Days) Graphing and Attributes of Quadratics Standard and Vertex Forms of Quadratics Writing Equations of Quadratic Functions Intro to Focus and Directrix	2A.3A, 2A.3A, 2A.4A, 2A.4D, 2A,.7B,2A.4F,2A.7A
Unit 4*:* Regression (5 Days) **Using Regression to Model Functions** Linear Regression Quadratic Regression	2A.3A, 2A.3A, 2A.4A, 2A.4D, 2A,.7B,2A.4F,2A.7A
Unit 5: Solving Quadratic Functions (8 Days) Factoring Review Solving Quadratics by Factoring Completing the Square Solving Quadratics using the Square Root Method	
Review and Final Exam (6 Days)	
Semester Two	
Third 9 Weeks (40 Days)	
Unit 5 Solving Quadratic Functions (12 Days) Continued Solving Quadratic Equations using the Quadratic Formula Solving Quadratic Equations using the Square Root Method Complex Numbers Solving Quadratic Inequalities	2A.3A, 2A.3A, 2A.4A, 2A.4D, 2A,.7B,2A.4F,2A.7A

Unit 5: Inverse Functions (13 Days) Graphing Inverses & Finding Inverse Equations Composition of Functions Inverses of Quadratic Functions Inverses of Square Root Functions Verifying Inverses of Quadratic and Square Root Functions	2A.2B, 2A.2C
Unit 6 Part 1: Square Root, Cubic, & Cube Root Functions (15 Days) Solving Square Root Equations Graphing Cubic Functions Graphing Cube Root Functions Solving Cubic & Cube Root Equations Transformations of Square Root and Cubic Functions	2A.2A, 2A.6A, 2A.7B, 2A,7D, 2A.7E, 2A.7I
Fourth 9 Weeks (46 Days)	
Unit 6 Part 2: Square Root, Cubic, & Cube Root Functions (12 Days) Simplifying Radical Expressions & Rational Exponents Simplifying Radical Expressions & Rationalizing Denominators Solving Equations with Rational Exponents Finding Inverses of Cubic & Cube Root Functions Verifying Inverses of Cubic & Cube Root Functions	2A.2A, 2A.6A, 2A.7B, 2A,7D, 2A.7E, 2A.7I
Unit 7: Rational Functions (12 Days) Addition and Subtraction with Rational Expressions Simplifying, Multiplying, and Dividing Rational Expressions Solving Rational Equations Graphs of Rational Functions: Domain, Vertical Asymptotes & Holes Graphs of Rational Functions: Horizontal Asymptotes	2A.2A, 2A.2B, 2A.2C, 2A.2D,2A.2F, 2A.4G, 2A.7I, 2A.7G, 2A.7H
Unit 8: Exponential Functions (9 Days) Graphing Exponential Functions Graphing Transformations of Exponential Functions Solving Exponential Equations Applications of Exponential Functions	2A.2A, 2A.5A, 2A.5B

Unit 9: Logarithmic Functions (7 Days) Simplifying Log Expressions Properties of Logs Graphing Log Functions	2A.2A, 2A.2B, 2A.2C, 2A.5A, 2A.5B, 2A.5C, 2A.7I
Spring Review and Final (5 Days)	