Algebra II Mathematics

July 2021

Essential Resources	District Resources to Teach 100% of the TEKS located in the NBISD ECourse Resources, Algebra II Online Textbook Link to TEKS: https://tea.texas.gov/curriculum/teks/
Spiraled TEKS	Process Skills Embedded in All Lessons: 2A.1(A) apply mathematics to problems arising in everyday life, society, and the workplace 2A.1(B) use a problem solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem solving process and the reasonableness of the solution 2A.1(C) select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems

Timeline		1st Quarter Aug 23 - Oct 15, 2021 38 Instructional Days				2nd Quarter Oct 19 - Dec 17, 2021 40 Days		
Unit		Unit 1 Algebra II Pre-Requisites	Unit 2 Functions	Unit 3 Absolute Value Functions	Unit 4 Quadratic Functions	Unit 5 Quadratic Equations and Inequalities	Unit 6 Systems of Equations and Inequalities	Unit 7 Polynomial Functions
Big Idea	Current Grade	Evaluate and simplify algebraic expressions, solve linear equations and inequalities, review of graphing	Transformation of functions, identify critical attributes of functions such as domain, range, symmetry, maxima, minima, increasing and decreasing, zeros, asymptotes, and endbahvior. Graph and write equations for the inverse of a function	Write and solve absolute value equations and inequalities. Graph absolute value functions and identify critical attributes. Explore transformations of absolute value functions	Graph Quadratic functions written in different forms, explore transformations of quadratic functions, transform a quadratic function from standard form to vertex form, wrtie a quadratic function given three points or given attributes including vertex, focus, directrix, axis of symmetry	Solve quadratic equations using a variety of methods including those with complex solutions, solve quadratic inequalities, simplify expressions containing complex numbers	Solve and write systems of equations with 3 equations and 3 unknowns Solve a system of equations containing a linear and quadratic	Graph polynomial functions and identify their critical attributes,
TEKS	Current Grade		2**ABC**D, 4**C**, 6AC, 7I	6CD**EF**	4A**B**DE,7AI, 8AB**C**	4AB**E**, 7AI, 8AB**C**	3A**B**CDEFG, 4**F**H, 7A	2A, 7I, 6A

Timeline		3rd Quarter Jan 4 - March 11, 2022 48 Instructional Days				4th Quarter March 21 - May 26, 2022 48 Instructional Days		
Unit		Unit 8 Polynomial Expressions and Equations	Unit 9 Rational Functions	Unit 10 Rational Expressions and Equations	Unit 11 Radical Functions	Unit 12 Radical Expressions and Equations	Unit 13 Exponential Functions	Unit 14 Logarithmic Functions
Big Idea	Current Grade	Add/Subt/Mult/Divide Polynomial expressions, factor polynomial expressions, solve polynomial equations including those with complex solutions	Graph Rational functions and identify their critical attributes, explores transformations of rational functions	Simplify and solve rational equations	Graph square root and cube root functions and identify their critical attributes, identify and graph the inverses fo quadratic and cubic function	Solve square root and cube root equations, solve equations with rational exponents, simplify radical expressions	Graph Exponential functions, explore transformations of exponential functions, solve real world problems involving exponential functions	Graph logarithmic functions, explore transformations of logarithmic functions, simplify logarithmic expressions using the properties of logarithms, solve logarithmic equations, solve exponential equations using logarithms, identify and graph the
TEKS	Current Grade	2A, 4F, 7BCDE	6GIK**L**	6HIJKL, 7D**EF**	2**A**, 4**C**E, 6A, 7I	4**F**G, 6B, 7G**H**	2A**BC**, 5**A**BD, 7I	2A**BC**, 5**A**BCDE, 7I