

Algebra 2 Curriculum Map

TOPIC & TEXTBOOK CHAPTERS	Duration	Month(s)
Unit 1: Algebra Basics <u>Chapter 1:</u> Number Sets, Field Axioms, Variables, Expressions, Equations, Inequalities, Polynomials, Proving Properties from Axioms	2 wks	Aug/Sept
Unit 2: Functions & Relations, Linear Functions <u>Chapters 2 & 3:</u> Equations with Two Variables, Real World Functions, Four Faces of a Function, Graphs, Linear Functions, Linear Modeling	3 wks	Sep
Unit 3: Systems of Linear Equations and Inequalities <u>Chapter 4:</u> Linear Systems, Solution of Systems, Second-Order Determinants, Function Terminology, Systems of Linear Equations with Three or More Variables, Augmented Matrices, Higher-Order Determinants, Systems of Linear Inequalities, Linear Programming	4 wks	Sep/Oct
Unit 4: Quadratic Functions and Complex Numbers <u>Chapter 5:</u> Graphs of Quadratic Functions, x-Intercepts, Quadratic Formula, Imaginary and Complex Numbers, Evaluating Quadratic Functions, Quadratic Modeling	3 wks	Oct/Nov
Unit 5: Exponential and Logarithmic Functions <u>Chapter 6:</u> Exponential Functions, Exponentiation, Powers and Radicals, Scientific Notation, Solving Exponential Equations, Logarithms, Properties of Logarithms, Inverses of Functions, Exponential Modeling	5 wks	Nov/Dec
Unit 6: Rational Algebraic Functions <u>Chapter 7:</u> Rational Functions, Graphs, Asymptotes, Discontinuities, Special Products, Factoring, Long Polynomial Division, Factoring Higher Degree Polynomials (Factor Theorem), Products, Quotients, Sums and Differences of Rational Expressions, Fractional Equations, Variation Functions	4 wks	Jan
Unit 7: Irrational Algebraic Functions <u>Chapter 8:</u> Irrational Functions, Graphs, Radicals and Simple Radical Form, Radical Equations, Variation Functions	2 wks	Jan/Feb
Unit 8: Quadratic Relations & Higher-Degree Functions <u>Chapters 9 & 10:</u> Quadratic Relations, Circles, Ellipses, Hyperbolas, Parabolas, Higher-Degree Functions, Complex Numbers, Quadratic Equations from their Solutions, Graphs, Synthetic Substitution, Descartes' Rule, Upper Bound Theorem, Modeling	4 wks	Feb/Mar
Unit 9: Sequences and Series / CSAPs <u>Chapter 11:</u> Arithmetic and Geometric Sequences, Arithmetic and Geometric Means, Arithmetic and Geometric Series, Factorials, Binomial Series, Binomial Formula	3 wks	Mar
Unit 10: Probability and Data Analysis <u>Chapter 12:</u> Probability, Counting Principles, Permutations, Combinations, Properties of Probability, Statistics, Data Analysis, Standard Deviation	4 wks	Apr
Unit 11: Trigonometry <u>Chapter 13:</u> Periodic Functions, Arcs and Rotation, Trigonometric and Circular Functions, Unit Circle, Right Triangle Problems	3 wks	Apr/May