Algebra II – Curriculum Map

Weeks	Unit Name (Topic)	Lessons	Objectives	Standards and Eligible Content	Resources	Assessments	Adaptations Modifications	Vocab
1 – 2	Prior Knowledge	#1 – 10	Simplifying Expressions, Solving Linear and Absolute Value Equations and Inequalities	A2.1.2.1.3	Chalkboard, Promethean Board	Homework, Weekly Assignments, Test	* Calculator, Extended Test Time, GMM (Special Education and Gifted Students)	Expression
3 – 6	Linear Functions	#11 – 26	Relations, Functions, Graphing Linear and Absolute Value Equations and Inequalities, Best-Fitting Lines	A2.2.2.2.1, A2.2.3.1.1, A2.2.3.1.2	Chalkboard, Promethean Board, Measuring Tapes, NCTM Website (Best-Fitting Line Application)	Homework, Weekly Assignments, Quiz, Project, Test	*	Increasing and Decreasing, Intercept, Observational Study, Outcomes, Regression Models, Scatterplot
7 – 8	Systems of Equations	#27 – 35	Solving Systems by Graphing, Substitution, Elimination; Systems of Equations Word Problems	A2.1.2.1.3	Chalkboard, Promethean Board	Homework, Weekly Assignments, Test	*	System

9 – 12	Factoring	#36 – 52	Factoring Out a GCF and Factoring Binomials, Trinomials, and Quadrinomials	A2.1.2.2.1	Chalkboard, Promethean Board	Homework, Weekly Assignments, Quiz, Take-Home Quiz, Test	*	Binomial, Perfect Square, Trinomial, Polynomial Identity
13 – 15	Quadratic Equations	#53 – 64	Solving Quadratic Equations by Factoring, Square Roots, Completing the Square, and Quadratic Formula	A2.1.1.1.1, A2.1.1.1.2, A2.1.1.2.1, A2.1.1.2.2, A2.1.2.1.2, A2.1.3.1.1	Chalkboard, Promethean Board	Homework, Weekly Assignments, Quiz, Test	*	Complex Number, Imaginary Number, Quadratic Formula
16 – 17	Quadratic Functions	#65 – 74	Graphing and Writing Quadratic Equations in Standard, Vertex, and Intercept Form	A2.2.2.1.1, A2.2.2.1.4, A2.2.2.2.1, A2.2.2.2.1	Chalkboard, Promethean Board	Homework, Weekly Assignments, Test	*	Quadratic Function
18 – 19	Polynomial Functions I	#75 – 80	Operations of, Evaluating, and Graphing Polynomials	A2.2.2.1.1, A2.2.2.1.4, A2.2.2.2.1	Chalkboard, Promethean Board	Homework, Weekly Assignments, Take-Home Quiz, Test	*	Polynomial
20 – 21	Polynomial Functions II	#81 – 89	Polynomial Long and Synthetic Division, Finding Zeros	A2.2.1.1.4	Chalkboard, Promethean Board	Homework, Weekly Assignments, Test	*	Polynomial

22 – 23	Polynomial Functions III	#90 – 96	Finding Zeros, Maximums, Minimums on Graphing Calculator, Finite Differences	A2.2.1.1.1, A2.2.1.1.4, A2.2.2.1.1, A2.2.2.1.3, A2.2.2.1.4, A2.2.2.2.1	Chalkboard, Promethean Board, TI-83 Graphing Calculators	Homework, Weekly Assignments, Test	*	Extrema, Intervals
24 – 26	Rational Exponent Expressions	#97 – 110	Simplifying Expressions Involving Radicals and Rational Exponents	A2.1.2.1.1, A2.1.2.1.2, A2.1.2.1.3	Chalkboard, Promethean Board	Homework, Weekly Assignments, Test	*	Exponential, Negative Exponents, Rational Functions, Root Functions
27 – 28	Radical Equations	#111 – 118	Solving Power and Root Equations	A2.1.3.1.2, A2.2.1.1.3	Chalkboard, Promethean Board	Homework, Weekly Assignments, Test	*	Exponential Function, Radical Functions, Root Functions
29	Radical Functions	#119 – 122	Graphing Radical Equations	A2.2.1.1.3, A2.2.2.1.1, A2.2.2.1.4, A2.2.2.2.1	Chalkboard, Promethean Board	Homework, Weekly Assignments, Test	*	Radical Functions, Root Functions
30 – 31	Function Composition	#123 – 130	Composition and Inverses of Functions	A2.2.1.1.3	Chalkboard, Promethean Board	Homework, Weekly Assignments, Test	*	Inverse of a Function, Reflection
32 – 33	Rational Expressions	#131 – 137	Adding, Subtracting, Multiplying, and Dividing Rational Expressions	A2.1.2.2.2	Chalkboard, Promethean Board	Homework, Weekly Assignments, Test	*	Rational Functions

34 – 35	Complex Fractions	#138 – 147	Simplifying Complex Fractions, Solving Rational Equations	A2.1.3.1.2	Chalkboard, Promethean Board	Homework, Weekly Assignments, Quiz, Test	*	Rational Functions
36 – 37	Keystone Review	#148 – 157	Keystone Review Questions, Keystone Sample Tests	* Review of Algebra I Standards	Chalkboard, Promethean Board, Calculators	Homework, Weekly Assignments	*	Combination, Compound Events, Dependent and Independent Events, Geometric Sequence, Permutation, Probability, Sample Survey
38	Rational Functions	#158 – 161	Graphing Rational Functions	A2.2.1.1.3, A2.2.1.1.4, A2.2.2.1.1, A2.2.2.1.4	Chalkboard, Promethean Board	Homework, Weekly Assignments, Test	*	Asymptote
39 – 40	Logarithms	#162 - 167	Expanding and Condensing Logarithms, Solving Logarithmic and Exponential Equations	A2.1.2.1.4, A2.1.3.1.3	Chalkboard, Promethean Board	Homework, Weekly Assignments, Test	*	Common Logarithm, Logarithm, Natural Logarithm
41	Scale Drawing Project	#168 – 172	Make Grid, Transfer Using Accurate Scale	N/A	Rulers	Weekly Assignments, Project	*	Transformation

Big Ideas:

- Mathematical relationships among numbers can be represented, compared, and communicated.
- Mathematical relationships can be represented as expressions, equations and inequalities in mathematical situations.
- Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools.
- Patterns exhibit relationships that can be extended, described, and generalized.
- Mathematical relations and functions can be modeled through multiple representations and analyzed to raise and answer questions.
- Data can be modeled and used to make inferences.
- Measurement attributes can be quantified, and estimated using customary and non-customary units of measure.

Resources:

- http://static.pdesas.org/content/documents/CF-Math_Alg_2_1016.pdf