

Carson City School District
Carson City, Nevada

Algebra II Math Curriculum Map
High School

KEY TO PRIORITY FRAMEWORK AND ASSESSMENT LEVEL

E = Enduring. Complex, engaging, “big ideas”, will require more in-depth knowledge.

I = Important to know and do. Students should retain detailed but not extensive knowledge.

W = Worth being familiar with. Students should have awareness of key people, ideas, concepts, and terms.

L = Nevada Academic Standards that are assessable at the local level ONLY.

S = Nevada Academic Standards that are assessable at the state and local levels.

As an example the letters E/L would indicate that the standard requires enduring knowledge and will only be assessed at the local level.

KEY TO INTERDISCIPLINARY LINKS

C = Civics E = English Language Arts Ec = Economics G = Geography
H = History M = Mathematics S = Science He = Health

RESOURCE KEY

ML:A2 = McDougal-Littel Algebra II

Content Organization: The problem solving and mathematical communication/reasoning/connection standards (6.0 – 9.0) are to be introduced and reinforced throughout the year.

Content Standard 1.0: Number Sense/Computation – *Students will accurately calculate and use estimation techniques, number relationships, operation rules and algorithm; they will determine the reasonableness of answers and the accuracy of solutions.*

Content Standard 2.0: Patterns/Algebraic Thinking – *Students will use various algebraic methods to analyze, illustrate, extend, and create numerous representations (words, numbers, tables, and graphs of patterns, functions, and algebraic relations as modeled in practical situations.*

Content Standard 3.0: Measurement – *Students will use appropriate tools and techniques of measurement to determine, estimate, record and verify direct and indirect measurements.*

Content Standard 4.0: Geometry – *Students will identify, represent, verify and apply spatial relationships and geometric properties.*

Content Standard 5.0: Data Analysis/Statistics – *Students will collect, organize, display, interpret and analyze data to determine statistical relationships and probability projections.*

Process Standard 6.0: Problem Solving – *Students will develop their ability to solve problems by engaging in developmentally appropriate problem solving opportunities in which there is a need to use various approaches to investigate and understand mathematical concepts in order to formulate their own problems; find solutions to problems from everyday situations; develop and apply strategies to solve a wide variety of problems; and integrate mathematical reasoning, communication and connections.*

Process Standard 7.0: Mathematical Communication– *Students will develop their ability to communicate mathematically by solving problems in which there is a need to obtain information from the real world through reading, listening, and observing in order to transfer this information into a mathematical language and symbols; process this information mathematically; and present results in written, oral and visual formats.*

Process Standard 8.0: Mathematical Reasoning - *Students will develop their ability to reason mathematically by solving problems in which there is a need to investigate significant mathematical ideas and construct their own learning in all content areas in order to justify their thinking; reinforce their logical reasoning abilities; reflect on and clarify their own thinking; and ask questions to extend their thinking.*

Process Standard 9.0: Mathematical Connections - *Students will develop the ability to make mathematical connections by solving problems in which there is a need to view mathematics as an integrated whole, identifying relationships between context strands, and integrating mathematics with other disciplines, allowing the flexibility to approach problems in a variety of ways within and beyond the field of mathematics.*

Carson City School District Curriculum Map: Algebra II				
Content Standards	Objective	Priority	Resource	Process Standards
	Quarter One Skills		ML:A2	
1.12.1,3 2.12.2	Algebraic Expressions and Models	I/S	1.2	6.0 - 9.0 Ongoing
1.12.3	Real Numbers and Number Operations	I/S	1.1	6.0 - 9.0 Ongoing
2.12.2	Writing Equations of Lines	E/L	2.4	6.0 - 9.0 Ongoing
2.12.2,3,6	Correlation and Best-Fitting Lines	E/S	2.5	6.0 - 9.0 Ongoing
2.12.2,7	Solve Linear Systems by Graphing or Algebraically	W/L	3.1	6.0 - 9.0 Ongoing
2.12.2,7	Apply systems to real-life situations	W/L	3.2	6.0 - 9.0 Ongoing
2.12.2,7	Graph and solve Linear Equations in Three Variables	W/L	3.5	6.0 - 9.0 Ongoing
2.12.3	Rewriting Equations and Formulas	E/S	1.4	6.0 - 9.0 Ongoing
2.12.3	Solving Absolute Value Equations and Inequalities	E/S	1.7	6.0 - 9.0 Ongoing
2.12.3,6	Functions and Their Graphs	E/S	2.1	6.0 - 9.0 Ongoing
2.12.3,6	Quick Graphs of Linear Equations	E/S	2.3	6.0 - 9.0 Ongoing
2.12.5	Problem Solving Using Algebraic Models	E/S	1.5	6.0 - 9.0 Ongoing
2.12.6	Solving Linear Inequalities	W/L	1.6	6.0 - 9.0 Ongoing
2.12.6 2.12.7	Solving Linear Equations	W/L	1.3	6.0 - 9.0 Ongoing
2.12.6 4.12.5	Slope and Rate of Change	E/S	2.2	6.0 - 9.0 Ongoing

2.12.6,7	Piecewise Functions	W/L	2.7	6.0 - 9.0 Ongoing
2.12.6,7	Absolute Value Functions	W/L	2.8	6.0 - 9.0 Ongoing
2.12.7	Linear Inequalities in Two Variables	W/L	2.6	6.0 - 9.0 Ongoing
2.12.7	Graphing and Solving Systems of Linear Inequalities	W/L	3.3	6.0 - 9.0 Ongoing
2.12.7	Apply linear programming to real-life situations	W/L	3.4	6.0 - 9.0 Ongoing
Quarter Two Skills				
1.12.2	Simplify expressions involving powers	W/L	6.1	6.0 - 9.0 Ongoing
2.12.1	Evaluate and Graph Polynomial Functions	E/S	6.2	6.0 - 9.0 Ongoing
2.12.2	Evaluate Determinants and solve systems using Cramer's Rule	E/L	4.3	6.0 - 9.0 Ongoing
2.12.2	Determine and use Identity and Inverse Matrices	E/L	4.4	6.0 - 9.0 Ongoing
2.12.2,5	Complete matrix, scalar/matrix Operations	E/S	4.1	6.0 - 9.0 Ongoing
2.12.4	Graphing quadratic functions	I/S	5.1	6.0 - 9.0 Ongoing
2.12.4	Model real-life situations with quadratic functions	I/S	5.6	6.0 - 9.0 Ongoing
2.12.5 5.12.1	Use the matrix to represent and manipulate real life information	E/S	4.2	6.0 - 9.0 Ongoing
4.12.5	Apply the Distance and Midpoint Formulas	I/S	5.9/10.1	6.0 - 9.0 Ongoing
5.12.1	Solve Systems Using Inverse Matrices	I/L	4.5	6.0 - 9.0 Ongoing
NCTM	Solve quadratic equations by factoring or finding square root	I/S	5.2	6.0 - 9.0 Ongoing
NCTM	Perform operations and solve equations with complex numbers	I/L	5.3	6.0 - 9.0 Ongoing
NCTM	Use Completing the Square to interpret quadratic functions	I/L	5.4	6.0 - 9.0 Ongoing

NCTM	Graph and solve quadratic inequalities	E/L	5.5	6.0 - 9.0 Ongoing
NCTM	Graph and write equations for the Conic Sections	I/L	5.9/10.2	6.0 - 9.0 Ongoing
NCTM	Classify the Conic Sections	I/L	5.9/10.6	6.0 - 9.0 Ongoing
NCTM	Solving Quadratic Systems	I/L	5.9/10.7	6.0 - 9.0 Ongoing
NCTM	Perform polynomial operations	I/L	6.3	6.0 - 9.0 Ongoing
NCTM	Factor and Solve Polynomial Equations	I/L	6.4	6.0 - 9.0 Ongoing
NCTM	Apply the Remainder and Factor Theorems	I/L	6.5	6.0 - 9.0 Ongoing
NCTM	Finding Rational Zeros	I/L	6.6	6.0 - 9.0 Ongoing
NCTM	Using the Fundamental Theorem of Algebra	I/L	6.7	6.0 - 9.0 Ongoing
NCTM	Analyze and Graph with Polynomial Functions	I/L	6.8	6.0 - 9.0 Ongoing
Quarter Three Skills				
2.12.1	Use the Binomial Theorem	E/S	7.9/12.2	6.0 - 9.0 Ongoing
5.12.2,3	Apply and distinguish Permutations, and Combinations	E/S	7.9/12.2	6.0 - 9.0 Ongoing
5.12.2,3	Find theoretical, experimental, and geometric probability	E/S	7.9/12.3	6.0 - 9.0 Ongoing
5.12.2,3	Calculate probability of Compound Events	I/L	7.9/12.4	6.0 - 9.0 Ongoing
5.12.3	Use the Fundamental Counting Principle	E/S	7.9/12.1	6.0 - 9.0 Ongoing
5.12.4,5	Statistics and Statistical Graphs	E/S	7.7	6.0 - 9.0 Ongoing
NCTM	n th Roots and Rational Exponents	I/L	7.1	6.0 - 9.0 Ongoing
NCTM	Properties of Rational Exponents	I/L	7.2	6.0 - 9.0 Ongoing

NCTM	Power Functions and Function Operations	I/L	7.3	6.0 - 9.0 Ongoing
NCTM	Inverse Functions	I/L	7.4	6.0 - 9.0 Ongoing
NCTM	Graphing Square Root and Cube Root Functions	I/L	7.5	6.0 - 9.0 Ongoing
NCTM	Solving Radical Equations	I/L	7.6	6.0 - 9.0 Ongoing
NCTM	Exponential Growth	I/L	8.1	6.0 - 9.0 Ongoing
NCTM	Exponential Decay	I/L	8.2	6.0 - 9.0 Ongoing
NCTM	The Number e	I/L	8.3	6.0 - 9.0 Ongoing
NCTM	Logarithmic Functions	I/L	8.4	6.0 - 9.0 Ongoing
NCTM	Properties of Logarithms	I/L	8.5	6.0 - 9.0 Ongoing
NCTM	Solving Exponential and Logarithmic Equations	I/L	8.6	6.0 - 9.0 Ongoing
NCTM	Logistic Growth Functions	I/L	8.7,8	6.0 - 9.0 Ongoing
Quarter Four Skills				
2.12.1	Use the Binomial Theorem	E/S	12.2	6.0 - 9.0 Ongoing
4.12.7	Right Triangle Trigonometry	I/L	13.1	6.0 - 9.0 Ongoing
5.12.2,3	Distinguish / apply Permutations and Combinations	E/S	12.1,2	6.0 - 9.0 Ongoing
5.12.2,3	Find Theoretical, experimental, and geometric probability	E/S	12.3	6.0 - 9.0 Ongoing
5.12.2,3	Probability of Compound Events	I/L	12.4	6.0 - 9.0 Ongoing
5.12.3	UseThe Fundamental Counting Principle	E/S	12.1	6.0 - 9.0 Ongoing
NCTM	Inverse and Joint Variation	I/L	9.1	6.0 - 9.0 Ongoing

NCTM	Graphing Simple Rational Functions	I/L	9.2	6.0 - 9.0 Ongoing
NCTM	Graphing General Rational Functions	I/L	9.3	6.0 - 9.0 Ongoing
NCTM	Multiplying and Dividing Rational Expressions	I/L	9.4	6.0 - 9.0 Ongoing
NCTM	Addition, Subtraction, and Complex Fractions	I/L	9.5	6.0 - 9.0 Ongoing
NCTM	Solving Rational Equations	I/L	9.6	6.0 - 9.0 Ongoing
NCTM	The Distance and Midpoint Formulas	I/L	10.1	6.0 - 9.0 Ongoing
NCTM	Graph and write equations for the Conic Sections	I/L	10.2-5	6.0 - 9.0 Ongoing
NCTM	Classify Conics	I/L	10.6	6.0 - 9.0 Ongoing
NCTM	Solving Quadratic Systems	I/L	10.7	6.0 - 9.0 Ongoing
NCTM	An Introduction to Sequence and Series	I/L	11.1	6.0 - 9.0 Ongoing
NCTM	Arithmetic sequences and series	I/L	11.2	6.0 - 9.0 Ongoing
NCTM	Geometric sequences and series	I/L	11.3	6.0 - 9.0 Ongoing
NCTM	Infinite geometric series	I/L	11.4	6.0 - 9.0 Ongoing
NCTM	Recursive rules of sequences	I/L	11.5	6.0 - 9.0 Ongoing
NCTM	General Angles and Radian Measure	I/L	13.2	6.0 - 9.0 Ongoing
NCTM	Trigonometric Functions of Any Angle	I/L	13.3	6.0 - 9.0 Ongoing