

WINDOW ROCK HIGH SCHOOL

ALGEBRA 2



Course Description/Objectives:

Algebra II is designed for students who need to extend the algebraic skills begun in Algebra I in a more practical and less theoretical setting. The course studies real numbers, equations, inequalities, algebraic fractions, fractional and negative exponents, radicals, and the complex numbers. Students are introduced to the concept of a function in general and specifically to polynomial, rational, exponential, logarithmic, and trigonometric functions. Probability and statistics are also included in the course.

REVIEW: The Real Number System N-Q Standards are included in Algebra 1, Geometry and Algebra 2.		
SEVIESTEK I		
 Unit 1: Functions Graphing linear and absolute value functions Graphs of functions Modeling with functions transformations of Function Graphs Inverse of Functions 		
 Unit 2: Quadratic Equations Perform arithmetic operations with complex numbers Solve quadratic equations Solve linear/quadratic system Average rate of change in quadratic functions Graph of quadratic functions Compare properties of quadratic functions Modeling with quadratic functions Transformations of quadratic functions 		
 Unit 3: Polynomials Adding and Subtracting Polynomials Multiplying Polynomials Dividing Polynomials Factoring Polynomials Solving polynomial equations: the Remainder Theorem and Factor Theorem The Fundamental Theorem of Algebra Proving polynomial identities Writing Polynomial Functions 		

 Graphing polynomials 	
 Unit 4: Rational Exponents and Radical Functions Rational exponents Solving radical equations Inverses and radical functions Graphing radical functions Transformation of radical functions 	
 FLEX 1: STATISTICS Sample Survey, Scatter plot, Sample, Population, Mean, Median, Mode, Standard Deviation FLEX 2: PROBABILITY Conditional Probability Using two-way frequency tables Baye's rule Addition Rule Multiplication Rule 	
SEMESTER 2	
 Unit 5 Rational Equations Modeling with Rational Functions Operations with Rational Expressions Solving Rational equations Graphing simple rational functions Transformations with rational functions Unit 6 Exponential and Logarithmic Functions Relationship between exponential and logarithmic functions Relationship between exponential and logarithmic functions Finite geometric series Arithmetic and geometric sequences Writing exponential functions Solving exponential and logarithmic functions Modeling with exponential functions Graphing exponential and logarithmic functions Graphing exponential and logarithmic functions Writing exponential and logarithmic functions Unit 7 Trigonometric Functions Angles of Rotation and Radian measure Defining and evaluating the Basic Trigonometric Functions 	
 Irigonometric Functions Using Pythagorean Identity Modeling with Periodic Phenomena Graphing Trig Functions 	