ARLINGTON PUBLIC SCHOOL: MATHEMATICS
Honors Algebra II

Course Description

This course is the second in the Honors sequence. The students continue to demonstrate higher order thinking skills, using multiple methods to develop and prove theorems. The honors course addresses the four strands of the frameworks with emphasis on the Patterns, Relations and Functions Strand. Consistent with the content standards of this strand, students expand their knowledge of functions to include exponential, logarithmic, and polynomial functions, and their knowledge of equations to include multiple methods of solving quadratics and linear systems in three variables. The Number Sense Strand is addressed as students study complex numbers, graphs, and rational exponents. Students work in the coordinate plane-using transformations and relating algebraic and geometric representations as they address the Geometry Strand. Content areas such as averages, regressions, and data plots address the Statistics and Probability Strand. Students are engaged in problem solving, communicating, reasoning, and connecting

Curriculum Topics	Benchmarks
◆Functions and Relations: 　·Polynomial, Exponential, Logarithmic, 　·Rational, Irrational ◆Systems of Linear Equations and Inequalities ◆Matrices ◆Introduction to Statistics ◆Theory of Polynomials ◆Complex Numbers ◆Conic Sections **AHS NEASC Expectations Addressed** **Arlington High School students will:** 　◆Gather, interpret and evaluate information. 　◆Demonstrate the ability to read critically and to think analytically. 　◆Develop multiple strategies for problem solving. 　◆Utilize current technology in their educational experience.	**The student will be able to:** ◆Analyze and graph various functions and relations, including polynomial, exponential, logarithmic, rational and irrational ◆Understand the theory of polynomials, including finding zeros of polynomial equations, remainder and factor theorems ◆Have a good understanding of complex numbers, including graphing on a complex plane, operating with complex numbers, and solving equations with complex solutions ◆Analyze and graph the conic sections ◆Solve a system of equations by various methods ◆Simplify and factor expressions and solve equations involving polynomials, non-integer exponents, logarithms ◆Operate with matrices ◆Have a basic understanding of statistics including mean, median, mode, regression, box plots, stem and leaf plots