Course Title: Algebra 2/Trig Honors

Course #: 1425-1426

Course Description: Algebra 2 / Trigonometry Honors is an accelerated course that reviews and solidifies Algebra 1 concepts and introduces more advanced concepts in algebra and trigonometry. After reviewing linear and quadratic functions, students are introduced to polynomial, rational, exponential, and logarithmic functions. Sequences and Series as well as trigonometric functions, identities and graphs are also covered. This course is designed to prepare students to take Pre-Calculus Honors.

UC/CSU Approval: “C” approved
*Local honors weight only, not UC/CSU approved as an honors course

Grade Level: 9-12

Estimated Homework Per Week: 4 hours per week

Prerequisite: Completion of Geometry or Geometry (H) with a grade of “B” or higher

Recommended Prerequisite Skills:
If a student completes Geometry (instead of Geometry H), a B+ both semesters is recommended. To be successful in this class, student will need to be:
  ● A quick learner of new concepts
  ● Self-motivated
  ● Willing to work hard outside of class to master new concepts
  ● Willing to learn and master rigorous mathematical notation and concepts
  ● Able to perform computations without a calculator, including fractions and decimals

Course Grade Scale:
  ● Quizzes: 20%
  ● Tests: 50%
  ● Homework: 15%
  ● Semester Final: 15%

Major Assessments:
  ● Four to five unit tests per semester
  ● Tour to five quizzes per semester
  ● Semester Final
Major Units/Topics:

<Semester 1>

**Algebra 1 Review**: Linear equations, absolute value functions, systems of equations, factoring

**Ch 2 Quadratic functions**: Vertex form, standard form, graphing, factoring, completing the square, 
Quadratic Formula, vertical projectile motion, quadratic inequalities, complex numbers

**Ch 3 Polynomial Functions**: Classification of polynomials, Polynomial operations, Factoring polynomials, Finding real-roots of polynomials, Fundamental Theorem of Algebra, Graphing polynomials

**Ch 5 Rational and Radical Functions**: Operations of rational expressions, graphing rational and radical functions, solving radical and rational equations

<Semester 2>

**Ch 4 Exponential and Logarithmic Functions**: Graphing and solving exponential and logarithmic equations, inverses of relations and functions

**Ch 6 Properties of Functions**: Multiple representation of functions, comparing functions, piecewise functions, transforming functions, operations with functions, inverse functions

**Ch 9 Sequences and Series**: Series and summation notation, Arithmetic sequences and series, Geometric sequences and series, Infinite geometric series

**Ch 10/11 Trigonometric Functions**: Right-angle trigonometry, angles of rotation, the Unit Circle, inverses of trigonometric functions, Law of Sines, Law of Cosines, graphs of trig functions, fundamental trig identities