



Capital School District Math Curriculum – Algebra 3 with Trigonometry College Prep

This course is designed to strengthen the understanding of Algebra 2 concepts and extend them to a mathematical level which will prepare a student to compete at the college level in a pre-calculus or calculus program designed for non-math majors. This course will include a study of both algebraic and transcendental function (trigonometric, inverse trigonometric, logarithmic and exponential), matrices, vectors and topics from discrete mathematics including probability and statistics.

This year your child's curriculum will include the following:

Marking Period 1

- Working with functions including transformations, operations, composition and inverse
- Graphing rational functions and finding asymptotes, domain, range and intercepts
- Trigonometry using special right triangles and finding the 6 trigonometric functions
- Using the unit circle to find the 6 trigonometric functions
- Use the addition or subtraction formulas and values on the unit circle to find sine/cosine/tangent of angles not on the circle (EX: $15=45-30$)

Marking Period 2

- Perform operations (+, -, *, /) on complex numbers including powers
- Convert complex numbers from rectangular to complex form.
- Perform operations (+, -, *) on vectors
- Write a vector in component form and find its magnitude and direction
- Perform operations on matrices (+, -, *, determinant and inverse)
- Solve systems using matrices

Marking Period 3

- Properties and laws of logarithms, solving exponential and logarithmic equations, exponential, logarithmic, and other models
- Conic sections – parabolas, ellipses and hyperbolas – finding equation, graphing including special characteristics

Marking Period 4

- Statistics – graphs including histograms, box and whisker and normal
- Probability – sample space, distributions, simulation