**Math II Curriculum Guide – please see notes on resources and Honors on last page**

Transformations (7 days)

- Similar Figures, AA Similarity
- Transformations Introduction, Translations, Reflections, Rotations, Dilations
- Transformations Continued, Translations, Reflections, Rotations, Dilations
- Connections: Perpendicular Bisectors, Concentric Circles, Slope, Distance, Midpoint
- Combination Transformations
- Transformations of Objects onto original / Review
- Test

Geometry (16 days)

- Segment Addition and Angle Addition Postulate
- Vertical Angles, Linear Pair
- Parallel Lines (Alternate Interior / Corresponding Angles)
- Perpendicular Bisector / Angle Bisector Theorems
- Quiz
- Triangle Sum, Acute Angles of a right triangle are complimentary, Exterior Angle = Sum of two Remote Interior
- Triangle Inequality, Isosceles Triangles and Equilateral Triangles
- Midsegment of a Triangle
- Review
- Quiz
- Congruent Triangles
- Congruent Triangles Proofs
- A line parallel to one side of a triangle divides the other two sides proportionally and its converse
- Similar Triangle Proofs
- Review
- Test

Benchmark (1 day)

Quadratics (22 days)

- Function notation, Introduction to quadratics (the parabola)
- Expand a quadratic (foil/distribute) / Solve quadratics by factoring
- Solve quadratics by factoring
- Solve quadratics by factoring
- Solve quadratics using the quadratic formula
- Solve quadratics by taking the square root of both sides
- Complex numbers; quadratic formula continued, square root both sides continued
- Graph standard form. Include vertex (max/min), up/down, wide/narrow, y int, x int.
- Graph standard form. Include vertex (max/min), up/down, wide/narrow, y int, x int
- Graph Inequalities using interval notation
- Review or enrichment
- Quiz or Midchapter Test
- Application/word problems
- Application/word problems (HONORS)
- Solve quadratic by completing square; change to vertex form by completing square http://www.virtualnerd.com/algebra-1/quadratic-equations-functions/discriminant-quadratic-formula/quadratic-formula/quadratic-formula-derivation
- Graph vertex form parabola; http://www.purplemath.com/modules/sqrvertx2.htm
- Write equation of a quadratic given the solutions and given the vertex and a point
- Graph/Equation comparison, four forms of a quadratic
- Graph/Equation comparison, solve problems of "quadratic" form, solve $f(x) = g(x)$
- Systems (HONORS)
- Review
- Test

Advanced Functions (16 days)

- Properties of Exponents
- Rational Exponents / Simplify Radicals
- Operations with Radicals (Multiply and Add)
- Solving Equations with Radicals
- Solving Equations with Rational Exponents
- Quiz
- Transformation review of quadratics / Transformations with square root
- Power Models – even and odd powers (focus on cubic and cube root) - HONORS
- Graph direct and inverse variation
- Transformation of inverse variations
- Solve direct and inverse variations
- Solve joint variation /combined variations - HONORS
- Application
- Nonlinear Systems
- Review
- Test

Benchmark (1 day)

Trigonometry (7 days)

- Pythagorean Theorem / 45-45-90 triangles
- 30-60-90 triangles
- Quiz
- Trig Ratios
- Inverse Trig Function / Application (Angle of Elevation / Depression)
- Review
- Test

Probability (9 days)

- Permutations (HONORS)
- Combinations (HONORS)
- Introduction to Probability / Experimental and Theoretical Probability
- Review / Quiz
- Venn Diagrams / Two Way Frequency Tables
- Addition Rule / Mutually Exclusive Events
- Multiplication Rule / Independent/Dependent Events / Conditional Probability
- Review
- Test

Review (6 days)

Exams (5 days)

Please note that the above information is an estimated timeline to cover the common core curriculum for Math II and is subject to change based on new released information from the state of North Carolina and other factors that may affect the pace of the curriculum in the classroom.

**Resources available:**

Students can locate resources to help them master the content in the Math II curriculum on my Math II Canvas page. Canvas contains a page for each of the six units described above and the exam review with items such as: notes, class assignments, homework assignments, review material, extra practice/extra help, and practice exams.

**HONORS:**

Math II Honors is an honors level course. This course is also available in the Program of Studies at the College Preparatory level. Students earning credit for an Honors level course receive an elevated number of Quality Points for their Grade Point Average. Students choosing the Honors level course should be aware that this Honors level course will include:

- Required extension opportunities that are directly related to the Standard Course of Study. This includes additional content beyond that covered in the College Preparatory level. Many of these items have been noted in the curriculum guide above.
- More challenging coursework and assessments. Students will be expected to demonstrate higher levels of understanding for grades.
- Application of the course content will be more in depth.
- Students will have to focus and study regularly to master the content.
- The expectation that students can move through the coursework at an accelerated pace and students experiencing difficulty should quickly seek guidance from their teacher on how they can be more successful.