WORTHINGTON CHRISTIAN SCHOOLS

Curriculum Map: High School Mathematics

Essential Questions	Grade Level Scope and Sequence
How can you determine which model to use for a given set of data? Can you take data and analyze, display, and use it to make predictions? How can we establish more complex truths using previously established truths and definitions? How can a coordinate system be used to solve real world problems? Can you determine what type of solution is appropriate for the given situation and is it reasonable?	The learner will….. Algebra I 1. Understand the real number system and apply properties of numbers. 2. Solve equations and inequalities. 3. Evaluate exponents and roots. 4. Graph and solve linear, quadratic, and exponential functions. 5. Solve systems of linear equations. 6. Analyze data. Geometry 1. Understand the basic format of a mathematical proof. 2. Identify congruent and similar figures. 3. Know the properties of common polygons and circles. 4. Be able to do basic trigonometry. 5. Transform geometric shapes. 6. Determine the area, surface area, and volume of two and three dimensional objects. Algebra II 1. Understand the real number system and apply properties of numbers. 2. Be able to graph and solve systems of equations, linear, quadratic, rational, and radical functions. 3. Solve and apply exponential and logarithmic functions. 4. Be able to identify conic sections and use them to solve problems and graph equations. 5. Solve problems with arithmetic and geometric sequences. 6. Use trigonometry to solve real world problems.

	Precalculus 1. Graph and analyze polynomial, rational, exponential, logarithmic, and trigonometric functions. 2. Solve problems with matrices and determinants. 3. Graph and analyze conic sections. 4. Be introduced to fundamental calculus concepts. College Algebra 1. Solve equations and inequalities then graph the results. 2. Interpret the graph of various functions. 3. Solve and graph rational, exponential, and logarithmic functions. AP Calculus 1. Understand the concept of a limit and how to solve problems using limits. 2. Differentiate various functions. 3. Solve applicable problems using derivatives. 4. Find the antiderivative of various functions. 5. Solve problems using the fundamental theorem of calculus and other antiderivatives. 6. Solve basic differential equations. Integrated Mathematics 1 1. Analyze and organize data. 2. Learn the fundamental properties of algebra and geometry. 3. Graph and solve linear, quadratic and exponential functions. 4. Solve systems of equations. 5. Learn the concepts of congruence and similarity. 6. Learn the properties of polygons. Integrated Mathematics 2 1. Study probability and counting methods. 2. Study algebraic transformations of linear, quadratic and rational functions. 3. Learn properties of triangles and right triangle trigonometry. 4. Find area, surface area and volume of two and three dimensional figures. 5. Study geometric transformations.

	Integrated Mathematics 3 1. Analyze data and work with probability distributions. 2. Study trigonometric functions. 3. Solve and graph polynomial, exponential, and logarithmic functions. 4. Learn properties of circles. 5. Identify conic sections and use them to solve problems and graph equations. 6. Solve problems with arithmetic and geometric sequences. Statistics 1. Study collection and organization of data. 2. Analyze data with measures of center, variation, and regression. 3. Apply probability principles to statistics. 4. Study binomial and normal distributions. 5. Study estimation and hypothesis testing.