Integrated Math 360 Scope & Sequence - East Windsor High School

	ACADEMIC			HONORS		
	Integrated Math 1	**Integrated Math 2**	**Integrated Math 3**	**Integrated Honors Math 1**	**Integrated Honors Math 2**	**Integrated Honors Math 3**
Unit 1	Constructions & Rigid Transformations (G)	Solid Geometry (G)	Coordinate Geometry (G)	Constructions & Rigid Transformations (G)	Similarity (G)	Solid Geometry (G)
Unit 2	Congruence (G)	Linear Inequalities & Systems (A1)	Introduction to Quadratic Functions (A1)	Congruence (G)	Functions (A1)	Polynomials & Rational Functions (A2)
Unit 3	One-Variable Statistics (A1)	Two Variable Statistics (A1)	Quadratic Equations (A1)	One-Variable Statistics (A1)	Introduction to Exponential Functions (A1)	Complex Numbers & Rational Exponents (A2)
Unit 4	Linear Equations & Systems (A1)	Functions (A1)	Circles (G)	Linear Equations & Systems (A1)	Right Triangle Trigonometry (G)	Exponential Functions & Equations (A2)
Unit 5	Similarity (G)	Introduction to Exponential Functions (A1)	Conditional Probability (G)	Coordinate Geometry (G)	Circles (G)	Transformations & Functions (A2)
Unit 6	Right Triangle Trigonometry (G)		Statistical Inferences (A2)	Two Variable Statistics (A1)	Introduction to Quadratic Functions (A1)	Trigonometric Functions (A2)
Unit 7				Linear Inequalities & Systems (A1)	Quadratic Equations (A1)	Conditional Probability (G)
Unit 8					Sequences & Functions (A2)	Statistical Inferences (A2)

Course Descriptions:

Integrated Math 1 - This course develops students' understanding of foundational concepts in geometry, algebra, and statistics through problem solving and real-world applications. Students explore geometric constructions, rigid transformations, congruence, similarity, and right triangle trigonometry to strengthen logical reasoning and spatial understanding.

In algebra and statistics, students analyze one-variable data distributions and solve, graph, and interpret linear equations and systems of equations. Throughout the course, students build critical thinking skills, communicate mathematical reasoning, and apply concepts to meaningful situations.

Integrated Math 1 Honors- This course develops students' understanding of geometry, algebra, statistics, and functions through problem solving, reasoning, and real-world applications. Students begin by exploring geometric constructions, transformations, and triangle congruence to strengthen logical thinking and spatial reasoning. They then analyze data distributions, model relationships between variables, and solve equations and systems with increasing precision and mathematical justification.

Throughout the course, students connect geometry and algebra by examining how transformations affect graphs on the coordinate plane. They investigate linear relationships, inequalities, and statistical models using scatter plots, two-way tables, and systems of equations. Students also deepen their understanding of functions by interpreting and comparing linear, absolute value, piecewise, and exponential functions in multiple representations. Emphasis is placed on critical thinking, communication, modeling real-world situations, and explaining mathematical reasoning clearly and accurately.

Integrated Math 2 - This course develops students' understanding of geometry, algebra, statistics, and functions through problem solving and real-world applications. Students explore solid geometry, solve and graph linear inequalities and systems, and analyze relationships between variables using two-variable statistics.

Students also deepen their understanding of functions by interpreting and comparing multiple representations, while being introduced to exponential functions and real-world models of growth and decay. Emphasis is placed on mathematical reasoning, communication, and modeling.

Integrated Math 2 Honors - This course deepens students' understanding of geometry, algebra, and probability through reasoning, modeling, and problem solving. Students develop formal proof-writing skills while exploring triangle congruence, similarity, quadrilaterals, circles, and right triangle trigonometry.

Students also investigate quadratic functions and equations, analyzing multiple representations and solving real-world problems using factoring, completing the square, and the quadratic formula. The course introduces complex numbers, probability of combined events, and mathematical modeling, with an emphasis on logical reasoning, communication, and applying mathematics in meaningful contexts.

Integrated Math 3 - This course develops students' understanding of geometry, algebra, probability, and statistics through problem solving and mathematical reasoning. Students explore coordinate geometry, circles, and geometric relationships while applying algebraic concepts to the coordinate plane.

Students investigate quadratic functions and quadratic equations through graphing, modeling, and solving real-world problems. The course also introduces conditional probability and statistical inference, where students analyze data, interpret probabilities, and draw conclusions from statistical models. Emphasis is placed throughout the course on reasoning, communication, and applying mathematics in meaningful contexts.

Integrated Math 3 Honors - This course extends students' understanding of advanced algebra, functions, geometry, trigonometry, and statistics through problem solving and mathematical modeling. Students explore solid geometry, polynomial and rational functions, exponential and logarithmic functions, and transformations of functions in both graphical and algebraic forms.

Students also investigate trigonometric functions and periodic relationships using the unit circle, while strengthening their ability to model and analyze real-world situations. The course concludes with statistical inference, where students use data, simulations, and probability to draw conclusions and evaluate the reliability of statistical claims. Emphasis is placed throughout the course on reasoning, communication, and applying mathematics in meaningful contexts.

Detailed Pacing

Academic Track - Integrated Math 1		
Unit 1 - Geometry (1) **Constructions and Rigid Transformations** - Constructions - Defining Rigid Transformations - Working with Rigid Transformations	**Unit 2** - Geometry (2) **Congruence** - Congruent Figures - Triangle Congruence	**Unit 3** - Algebra 1 (1) **One-Variable Statistics** Supports: - Box Plot, Dot Plot - Measures of Center - Variability - Outliers Core: - Distribution Shapes - How to Use Spreadsheets - Manipulating Data - Let's Put It to Work
Unit 4 - Algebra 1 (2a) **Linear Equations and Systems** Supports: - Equations & Relationships - Slopes & Intercepts - Connecting Situations and Graphs Core: - Writing and Modeling with Equations - Manipulating Equations and Understanding Their Structure - Systems of Linear Equations in Two Variables	**Unit 5** - Geometry (3) **Similarity** - Properties of Dilations - Similarity Transformations and Proportional Reasoning - Similarity in Right Triangles	**Unit 6** - Geometry (4) **Right Triangle Trigonometry** Supports: - Pythagorean Theorem Core: - Angles and Steepness - Defining Trigonometric Ratios

Academic Track - Integrated Math 2		
Unit 1 - Geometry (5) **Solid Geometry** Support: - 2D-3D - Surface Area - Volume Core: - Scaling Solids - Prism and Cylinder Volumes	**Unit 2** - Algebra 1 (2b) **Linear Inequalities and Systems** Supports: - Inequalities in Context - Situations with Constraints - Testing Points Core: - Linear Inequalities in One Variable - Linear Inequalities in Two	**Unit 3** - Algebra 1 (3) **Two Variable Statistics** Supports: - Talking Percents - Goodness of Fit - Correlations Core: - Two-Way Tables - Scatterplots - Correlation Coefficients

- Understanding Pyramid Volumes	Variables - Systems of Linear Inequalities in Two Variables	
Unit 4 - Algebra 1 (4) **Functions** Support: - Using function notation - Interpreting functions - Examining domains and ranges Core: - Functions and Their Representations - Analyzing and Creating Graphs of Functions - A Closer Look at Inputs and Outputs - Absolute Value - Inverse Functions	**Unit 5** - Algebra 1 (5) **Introduction to Exponential Functions** Support: - Properties of Exponents - Working with Fractions - Finding Factors - Negative Exponents - Rate of Change - Percent Increase and Decrease Core: - Looking at Growth - A New Kind of Relationship - Exponential Functions - Percent Growth and Decay - Comparing Linear and Exponential Functions	

Academic Track - Integrated Math 3		
Unit 1 - Geometry (6) **Coordinate Geometry** - Transformations in the Plane - Theorems about Lines - Distances on the Plane	**Unit 2** - Algebra 1 (6) **Introduction to Quadratic Functions** - A Different Kind of Change - Quadratic Functions - Working with Quadratic Expressions - Features of Graphs of Quadratic Functions	**Unit 3** - Algebra 1 (7) **Quadratic Equations** Support: - Square and Equations - Steps in Solving Equations - Sums and Products - Quadratic Zeros - Finding Perfect Squares Core: - Finding Unknown Inputs - Solving Quadratic Equations - Completing the Square - The Quadratic Formula - Vertex Form Revisited
Unit 4 - Geometry (7) **Circles** - Lines, Angles, and Circles - Polygons and Circles - Measuring Circles	**Unit 5** - Geometry (8) **Conditional Probability** - Up To Chance - Combining Events - Related Events	**Unit 6** - Algebra 2 (7) **Statistical Inferences** - Study Types - Distributions - Not All Samples Are the Same

		- Analyzing Experimental Data

Honors Track - Integrated Math 1		
Unit 1 - Geometry (1) **Constructions and Rigid Transformations** - Constructions - Defining Rigid Transformations - Working with Rigid Transformations	**Unit 2** - Geometry (2) **Congruence** - Congruent Figures - Triangle Congruence	**Unit 3** - Algebra 1 (1) **One-Variable Statistics** - Distribution Shapes - How to Use Spreadsheets - Manipulating Data - Let's Put It to Work
Unit 4 - Algebra 1 (2a) **Linear Equations and Systems** - Writing and Modeling with Equations - Manipulating Equations and Understanding Their Structure - Systems of Linear Equations in Two Variables	**Unit 5** - Geometry (6) **Coordinate Geometry** - Transformations in the Plane - Theorems about Lines - Distances on the Plane	**Unit 6** - Algebra 1 (3) **Two Variable Statistics** Supports: - Talking Percents - Goodness of Fit - Correlations Core: - Two-Way Tables - Scatterplots - Correlation Coefficients
Unit 7 - Algebra 1 (2b) **Linear Inequalities and Systems** - Linear Inequalities in One Variable - Linear Inequalities in Two Variables - Systems of Linear Inequalities in Two Variables		

Honors Track - Integrated Math 2		
Unit 1 - Geometry (3) **Similarity** - Properties of Dilations - Similarity Transformations and Proportional Reasoning - Similarity in Right Triangles	**Unit 2** - Algebra 1 (4) **Functions** - Functions and Their Representations - Analyzing and Creating Graphs of Functions - A Closer Look at Inputs and Outputs	**Unit 3** - Algebra 1 (5) **Introduction to Exponential Functions** - Looking at Growth - A New Kind of Relationship - Exponential Functions - Percent Growth and Decay - Comparing Linear and

	- Absolute Value - Inverse Functions	Exponential Functions
Unit 4 - Geometry (4) **Right Triangle Trigonometry** Supports: - Pythagorean Theorem Core: - Angles and Steepness - Defining Trigonometric Ratios	**Unit 5** - Geometry (7) **Circles** - Lines, Angles, and Circles - Polygons and Circles - Measuring Circles	**Unit 6** - Algebra 1 (6) **Introduction to Quadratic Functions** - A Different Kind of Change - Quadratic Functions - Working with Quadratic Expressions - Features of Graphs of Quadratic Functions
Unit 7 - Algebra 1 (7) **Quadratic Equations** - Finding Unknown Inputs - Solving Quadratic Equations - Completing the Square - The Quadratic Formula - Vertex Form Revisited	**Unit 8** - Algebra 2 (1) **Sequences & Functions** - A Towering Sequence - Sequences - What's the Equations	

Honors Track - Integrated Math 3		
Unit 1 - Geometry (5) **Solid Geometry** Support: (brief) - Surface Area - Volume Core: - Cross Sections, Scaling, Area - Prism and Cylinder Volumes - Understanding Pyramid Volumes	**Unit 2** - Algebra 2 (2) **Polynomials & Rational Functions** - What is a Polynomial? - Working with Polynomials - Rational Functions - Rational Equations - Polynomial Identities	**Unit 3** - Algebra 2 (3) **Complex Numbers & Rational Exponents** - Exponents Properties - Solving Equations with Square and Cube Roots - A New Kind of Number - Solving Quadratics with Complex Numbers
Unit 4 - Algebra 2 (4) **Exponential Functions & Equations** - Growing & Shrinking - Understanding Non-Integer Inputs - Missing Exponents - The Constant *e* - Logarithmic Functions and Graphs	**Unit 5** - Algebra 2 (5) **Transformations & Functions** - Translations, Reflections, and Symmetry - Scaling Outputs and Inputs - Putting It All Together	**Unit 6** - Algebra 2 (6) **Trigonometric Functions** - The Unit Circle - Periodic Functions - Trigonometry Transformations
Unit 7 - Geometry (8)	**Unit 8** - Algebra 2 (7)	

Conditional Probability - Up to Chance - Combining Events - Related Events - Conditional Probability	**Statistical Inferences** - Study Types - Distributions - Not All Samples Are the Same - Analyzing Experimental Data	