Secondary Math Course Descriptions

COURSE	CONTENT
Math 6	In Math 6, the focus is on four critical areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; and (4) developing understanding of statistical thinking.
Math 6H	In Math 6H, students complete one and half years of content. It is a compacted course that includes the entire year from the Math 6 content and half of the year from Math 7 content.
+Math Academy Accelerated Integrated Math I/II	Accelerated Integrated Math I/II is the first course of a two-course sequence. The content includes all of the standards from High School Math I, approximately half of the standards from High School Math II, some introductory standards from High School Math III and an introduction to college level Proof. This is an extremely, rigorous compacted course in a sequence that aims to prepare students for AP Calculus in two years.
Math 7	In Math 7, the focus is on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.
Math 7H	In Math 7H, students complete one and half years of content. It is a compacted course that includes half of a year from the Math 7 content and the entire year of Math 8 content.
+Math Academy Accelerated Integrated Math II/III	Accelerated Integrated Math II/III is the second course of a two-course sequence. The content includes all of the standards from High School Math III, approximately half of the standards from High School Math II, and college level Proof. This is an extremely, rigorous compacted course in a sequence that aims to prepare students for AP Calculus in two years.
Math 8	In Math 8, the focus is on three critical areas: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem.
High School Math 1	This is the first course in a sequence of three integrated courses for high school. The course is intended to provide students the extension of foundational geometry, algebra and statistical concepts from middle school math. Students build upon linear and exponential functions, congruence, proof and transformation, and descriptive statistics. The problem situations and models used help foster connections among the various strands of mathematics.

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*High School Math 1H	Integrated Math I Honors is the first course in an accelerated, compacted math sequence that includes Integrated Math II Honors and Integrated Math III Honors. The goal is for students to develop an integrated understanding of algebra, geometry, and data analysis, where concepts, skills, and representations in each of the content strands support concepts, skills, problem solving, and reasoning in the other strands. Students will be expected to describe and translate among the various representations such as graphic, algebraic, numeric, tabular, and verbal relationships and use these representations to solve problems. The curriculum will extend the understanding of general concepts of linear relations, functions, algebraic manipulation, applications of data and rigid motions on the coordinate plane to building various functions, including exponential and quadratic; interpreting solutions to equations and inequalities; employing regression techniques and using rigid motions as a basis for geometric proof. In addition, students will approach standards that may include some pre-calculus standards.
High School Math 2	In this course students build upon work with exponential functions and extend this knowledge to quadratic functions. Additionally, a deeper understanding of number and quantity and expressions are developed through the thorough manipulation of expressions and equations. Students apply earlier experience with dilations and proportional reasoning to develop a formal understanding of triangle similarity.
*High School Math 2H	Integrated Math II Honors is the second course in an accelerated, compacted math sequence that includes Integrated Math I Honors and Integrated Math III Honors. Students build upon work with exponential functions and extend this knowledge to understand inverse functions, including logarithmic functions. Additionally, a deeper understanding of number and quantity and expressions are developed through the advanced manipulation of more complex expressions and equations. Students now study the application of probability and use the language of set theory to expand their ability to compute and interpret probabilities. Finally, students learn to prove the Laws of Sine and Cosine and understand the algebraic and geometric underpinnings of each. *NOTE: Students in Math 2H are not automatically moved to Math 3H. This is an Acceleration Check Point (ACP) where students must meet the criteria as set forth in the University of California course articulation in order to be accepted in the Math 3H*
High School Math 3	In this third and final course of the integrated math sequence application of mathematics learned from earlier courses is the focus. Students expand their understanding of functions to include polynomial, rational and radical functions. In addition they consolidate geometry and the functions to create models and solve contextual problems. Finally, students apply methods from probability and statistics to draw inferences and conclusions from data; and expand right triangle trigonometry to include general triangles
*High School Math 3H	Integrated Math III Honors with Pre-calculus is the third course in a compacted, honors sequence that includes Integrated Math I Honors and Integrated Math II Honors. The compacted sequence is for advanced students and allows completion of the college preparatory math over two years with any remaining standards integrated into the pre-calculus curriculum. In this course, students use graphing calculators and or other technology to address graphical analysis, which is an essential element of the course. Modeling of functions and equations is extended from previous course work as a means of problem solving. In addition, extensive study of fundamental trigonometric identities and their applications along with analytical practices are at the focus in order to prepare students for the study of Calculus. *Note: This is a University of California weighted Honors course. Prerequisites **must** be met in order to enroll.*

*All high school honors courses include advanced standards and content beyond the regular course. Enrollment in these courses requires that students have strong foundational prerequisite skills. In many cases the Integrated Honors Math sequence has embedded pre-calculus concepts.

\+ Accelerated Integrated Math courses are part of the District's Math Academy Program. Entrance into the program is through examination in middle school. The program has a radically accelerated math sequence designed for mathematically gifted students.