



Glendale Unified School District Secondary Math Content Course Descriptions

Course	Content
Math 7	Math 7 focuses on 4 critical areas: (1) developing understanding of and applying proportional relationships, including percentages; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems that involve 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 7/8 Accelerated	<p>Math 7/8 Accelerated is designed to follow Math 6 and lead into Middle School Integrated I. This course of study does not skip standards, but rather compresses them into an accelerated pathway.</p> <p>Math 7/8 focuses on 6 critical areas: (1) developing understanding of and applying proportional relationships, including percentages; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems that involve 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; (5) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, as well as solving linear equations and systems of linear equations; (6) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence.</p>
Math 8	Math 8 focuses on 3 critical areas: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, as well as solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; and (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem.
Middle School Integrated I	Integrated Math I is the first course of a three course sequence. This course satisfies the California State Standards for Mathematics. Integrated Math I builds and strengthens students' conceptual knowledge of functions, linear functions, equations, inequalities, sequences, basic exponential functions, systems of linear equations, systems of linear inequalities, one variable descriptive statistics, correlation and residuals, analyzing categorical data, mathematical modeling, and both coordinate and transformational geometries. This course includes standards from 8th grade not previously covered in 7/8 Accelerated as outlined in Appendix A "Overview of the Accelerated Integrated Pathway for the Common Core State Mathematics Standards", including (1) grasping the concept of a function and using functions to describe quantitative relationships; and (2) understanding and applying the Pythagorean Theorem.
Integrated I	Integrated Math I is the first course of a three course sequence. This course satisfies the California State Standards for Mathematics. Integrated Math I builds and strengthens students' conceptual knowledge of functions, linear functions, equations, inequalities, sequences, basic exponential functions, systems of linear equations, systems of linear inequalities, one variable descriptive statistics, correlation and residuals, analyzing categorical data, mathematical modeling, and both coordinate and transformational geometries.
Integrated II	Integrated II builds upon students' 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.

<p>Integrated II Accelerated</p>	<p>Integrated II Accelerated is the first course in an accelerated, compacted math sequence that includes Integrated III Accelerated. Students may enroll in this class as freshmen after completing Middle School Integrated I, or later in high school after they complete their Integrated I course. This sequence of two courses includes Precalculus and is designed to prepare students for AP Calculus AB.</p> <p>Students build upon work with exponential functions and extend this knowledge to understand quadratic and 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. Students learn to prove the Laws of Sine and Cosine and understand the algebraic and geometric underpinnings of each. In addition, students will approach standards that may include some precalculus standards.</p>
<p>Integrated III</p>	<p>Integrated III is the 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.</p>
<p>Integrated III Accelerated*</p>	<p>Integrated Math III Accelerated includes Precalculus. It is the second course in a compacted, honors sequence that begins with Integrated II Accelerated.</p> <p>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.</p>
<p>Precalculus</p>	<p>Precalculus combines concepts of trigonometry, geometry, and algebra that are needed to prepare students for the study of calculus. The course strengthens students' conceptual understanding of problems and mathematical reasoning in solving problems. Facility with these topics is especially important for students who intend to study calculus, physics, other sciences, and engineering in college. The main topics in the Precalculus course are complex numbers, rational functions, trigonometric functions and their inverses, inverse functions, vectors and matrices, and parametric and polar curves. Because the standards that comprise this course are mostly (+) standards, students who enroll in Precalculus should have met the college- and career-ready standards of the previous courses in the Integrated Pathway or Traditional Pathway. It is recommended that students successfully complete Precalculus before taking an Advanced Placement calculus course.</p>
<p>Precalculus Honors*</p>	<p>Precalculus Honors is a rigorous course which includes the topics and standards mentioned in Precalculus (see above). The course is designed for students who have successfully completed Integrated I through Integrated III, have a solid mathematical foundation, and want to challenge themselves as they prepare for a college level course, AP Calculus AB. Emphasis in this class is placed on students developing a deeper understanding of theorems, definitions and formulas through modeling and real-world application problems in an effort to meet the expectations of the rigor for the next course, AP Calculus AB.</p>