Math: Advanced College Prep Timeline and Essential Questions		
UNIT	**TOPIC**	**Essential Questions**
1	The Language of Algebra • Exponents • Order of Operations • Integers • Signed Numbers • Operations with Signed Numbers • Evaluate Algebraic Expressions	• What are the mathematical properties that govern rational numbers and how are they used? • How are operations using rational numbers related? • How can rational numbers be applied to real world examples? • Why is order important for solving expressions? • What are the characteristics of each number system?
2	Equations and Inequalities • Simplifying Expressions and Combining Like Terms • Addition and Subtraction Properties of Equality • Multiplication and Division Properties of Equality • Solving Multi-Step Equations Solving Multi-Step Inequalities • Applications and Problem Solving	• How can we use the fundamental properties of algebra to solve problems? • How do we use functions to solve real-world problems?
3	Graphing Linear Equations • Direct Variation • Slope-Intercept Form • Point-Slope Form • Standard Form • Parallel and Perpendicular Lines • Scatter Plots and Trend Lines • Graphing Absolute Value Functions	• What does the slope of a line indicate about the line? • What information does the slope of a line give you? • How can you make predictions based on a scatter plot?
4	Polynomials • Introduction to Polynomials • Add and Subtract Polynomials • Multiply Polynomials • Special Products • Dividing Polynomials	• Where do we use polynomials is real life?
5	Factoring • Factoring Out the GCF • Factor Quadratics	• How are different algebraic equations equivalent? • How are the properties of real numbers related to polynomials?

	• Factor by Grouping • Difference of Squares • Solve Equations by Factoring	
6	Algebraic Fractions • Reducing Algebraic Fractions • Add and Subtract Algebraic Fractions • Multiply and Divide Algebraic Fractions • Solve Equations Involving Algebraic Fractions	• How are different algebraic equations equivalent? • How are the properties of real numbers related to polynomials?
7	Systems of Linear Equations • Solve by Graphing • Solve by Adding • Solve by Substitution • Applications	• Where do you use systems of linear equations in real life?
8	Exponents and Radicals • Rational Exponents • Simplify Radical Expressions • Add and Subtract Radicals • Multiply Radicals	• How are rational expressions represented? • What are the characteristics of rational functions? • How can you solve a rational equation?
9	Radical Expressions and Equations • Pythagorean Theorem • Simplifying Radicals • Operations with Radical Expressions • Solving Radical Equations • Graphing Radical Equations • Graphing Square Root Equations • Trigonometric Ratios	• How can you estimate irrational square roots? • How can you calculate missing sides of right triangles? • How can you use trigonometric ratios to solve real world problems?