Target Students: Students who have not demonstrated college readiness as defined by HB5 or have not demonstrated Level III: Advanced performance on the STAAR Algebra I End of Course. Student has credit for Algebra I and Geometry.

Course Description *as defined by Alamo Colleges and the University of Texas at San Antonio:*
Topics include real numbers, basic geometry, polynomials, factoring, linear equations, inequalities, quadratic equations, rational expressions, factoring techniques, radicals, algebraic fractions, complex numbers, graphing linear equations and inequalities, quadratic equations, systems of equations, graphing quadratic equations and an introduction to functions. Emphasis is placed on algebraic techniques, in order to successfully complete an entry-level college mathematics course. Calculator use is allowed in this course when indicated, including the departmental semester examination.

Course Goal by Higher Education:

- This course is recommended for students who have not demonstrated college readiness as defined by HB5.
- In particular, this course is intended to prepare students for the study of entry-level college mathematics.

Additional Public Education Goals:

- Students are prepared to enter post-secondary coursework or careers with no additional remediation in mathematics.
- Students experience a combination of class and tutoring times to simulate the course structure of Alamo Colleges and UTSA.
- Students manage their own learning through effective self-scheduling, self-monitoring, and effective peer study groups.

Course Resources *recommended by* **SAISD, Alamo Colleges and UTSA***:*

Suggested Course Textbook Resources: Holt Algebra 2, McDougal Littell Algebra 2, Blitzer 5th Ed. Intermediate Algebra, Blitzer 5th Ed. Introductory and Intermediate Algebra, Cengage College Prep Algebra, Tyler Wallace Beginning and Intermediate Algebra 2nd Ed.

Suggested Course Online Resources: iTunes University TASA Math Course, *Math XL* (Pearson Education): MyMathLab and MyStatLab, Interactmath.com, Khan Academy, ALEKS, WeBWork (hosted by UTSA), OpenStax, Tyler Wallace: Beginning and Intermediate Algebra 2nd Ed.

Assessments, Course Grade & College Readiness:

A student's course grade will determine college readiness based on the following criteria:
- Assessments will comprise 80% of the final course grade with no single assessment weighted over 20%.
- When re-testing any assessment, the assessment score is limited to a grade of 70.
- A comprehensive assessment will be given and account for at least 15% and no more than 20% of the final average.
- If a student receives a course grade of at least 75, then the student has demonstrated TSI compliance with Alamo Colleges and UTSA and will be eligible to enroll in an entry-level college mathematics course.
- If a student receives a course grade of 70 – 74, then the student will receive high school credit but will **not** demonstrate proficiency and will **not** demonstrate TSI compliance.

Course Student Learning Outcomes & Learning Objectives:

STUDENT LEARNING OUTCOMES	LEARNING OBJECTIVES	HS EQUIVALENT
1. Identify and apply properties of real numbers, and perform operations with numbers in various formats and number systems.	1.1 Define and represent real numbers	Algebra I
	1.2 Identify and use algebraic field properties. Add, subtract, multiply and divide real numbers and manipulate numerical expressions	
	1.3 Simplifying square roots of numbers	
2. Demonstrate the ability to manipulate/simplify algebraic expressions, & classify/solve algebraic equations with appropriate techniques, including real world application problems utilizing geometric concepts.	2.1 Solve problems using equations and inequalities	
	2.2 Simplify and evaluate numerical and algebraic expressions with integer exponents using Laws of Exponents	
3. Recognize, understand and analyze features of a function, including real world application problems utilizing geometric concepts.	3.1 Plot ordered pairs	
	3.2 Define a function and use function notation. Determine if a function exists given multiple representations	
	3.3 Find rule of dependency between data sets	
	3.4 Given a situation, identify the independent and dependent variables and determine if the situation is continuous or discrete	
	3.5 Write, model and evaluate a function using function notation given a problem situation	
	3.6 Identify domain, range and intercepts of functions	
4. Recognize, understand and analyze features of linear equations and inequalities, including real world application problems utilizing geometric concepts.	4.1 Graph linear equations & linear inequalities in two variables	
	4.2 Find the slope of a line & write its equation	
	4.3 Solve systems of linear equations in two variables including application	
5. Solve algebraic equations and inequalities involving rational expressions, radicals, quadratics, or absolute value, including real world application problems utilizing geometric concepts.	5.1 Define absolute value, including form and notation	Algebra II
	5.2 Use algebraic properties to simplify and solve absolute value expressions, equations and inequalities	
	5.3 Evaluate absolute value expressions for given values	
	Objectives 1.1 – 5.3 will be included on the semester 1 exam	
	5.4 Add, subtract, multiply and divide polynomials	
	5.5 Factor polynomials including the techniques of the greatest common factor, grouping, difference of two squares and special trinomials	
	5.6 Add, subtract, multiply and divide rational expressions	
	5.7 Simplify complex fractions	
	5.8 Solve equations involving rational expressions	
	5.9 Simplify expressions involving rational exponents and simplify radical expressions	
	5.10 Add, subtract, multiply, divide expressions involving radicals and solve radical equations	
	5.11 Add, subtract, multiply and divide complex numbers	
	5.12 Solve quadratic equations by factoring, completing the square, quadratic formula and square root property	
6. Examine and interpret graphs of quadratic equations and inequalities, including real world application problems utilizing geometric concepts.	6.1 Write quadratic equations and inequalities, using function notation when appropriate, including when given a problem situation	
	6.2 Find domain, range, roots/zeros/solutions, intercepts, maximum, minimum, and increasing/decreasing intervals of a quadratic function and use them to graph and solve problems including those from a problem situation	
	6.3 Determine value of a quadratic function using its graph or function evaluation	
	Objectives 5.4 – 6.3 will be included on the semester 2 exam	