Course Title: Algebra 1A

Course #: 1413-1414

Course Description: Algebra 1A is a fast paced first year high school algebra course that begins with solving and graphing linear equations and inequalities. Students must already have an understanding of the language of algebra and strong basic skills in operations with the Real Number System to continue their studies of polynomials and their factors, quadratic equations, rational expressions, radicals, and rational functions. Students utilize technology for linear and quadratic modeling and receive an introduction to probability, data analysis and statistics.

UC/CSU Approval: “C” approved

Grade Level: 9-10

Estimated Homework Per Week: 2-3 hours

Prerequisite: HSPT placement or completion of Beginning Algebra with a C or higher.

Recommended Prerequisite Skills: Strong Pre-Algebra Skills

Course Grade Scale:
- Homework 25%
- Quizzes 25%
- Tests 35%
- Final Exam 15%

Major Assessments/Units/Topics:
I. Solving Linear Equations- (1 quiz, 1 test)
   Students will solve one-step, two step and multi-step linear equations. In addition, students will apply their equation solving abilities to word problem. Students will discover what makes up a proportion, and they will solve both simple proportions and word problems involving proportions. Students will also solve absolute value equations.

II. Solving Linear Inequalities and graphing solutions-(1 quiz, 1 test)
Students will use inverse operations, order of operations, and other basic mathematical properties to solve inequalities. Students will translate verbal phrases and sentences into inequalities and solve them.

III. Introduction to linear functions- (1 quiz, 1 test)
Students will be able to use a variety of methods to graph a linear equation. Students will also learn about domain and range and how to tell the difference.

IV. Graphing linear functions and investigation rate of change in functions-(1 quiz, 1 test)
Students will be able to write linear equations in a variety of forms. Students will need to use linear models to solve word problems and to discover what a line of best fit is.

V. Solving systems of linear equations (1 quiz, 1 test)
Students will be able to solve a system of linear equations using three different methods. Students will be able to apply their knowledge for systems of equations to real life word problems.

VI. Simplifying radicals and applying laws of exponents (1 quiz, 1 test)
Students will be able to apply the laws of exponents to simplify expressions.

VII. Adding, subtracting and multiplying polynomials- (1 quiz, 1 test)
Students will be able to classify polynomials and write polynomial expressions in standard form. Students will be able to add, subtract, and multiply polynomial expressions. Students will use their knowledge regarding polynomials to solve word problems.

VIII. Factoring polynomials- (1 quiz, 1 test)
Students will be able to factor polynomials using multiple different methods. Students will also be able to solve area problems using their skills and knowledge of factoring polynomials.

IX. Solving and graphing quadratic equations- (2 quizzes, 2 tests)
Students will be able to graph quadratic equations and be able to describe the different characteristics of quadratic equations. Students will also use a number of methods to solve quadratic equations. Students will apply their knowledge of solving quadratic equations to solve word problems.