Course Title: Beginning Algebra

Course #: 1409-1410

Course Description: Beginning Algebra reviews all critical elements in secondary mathematics education. The primary goal in this course addresses any misunderstandings or gaps students may still have from middle school math courses. Topics reviewed in beginning algebra provide the foundation students require for future success in high school mathematics involving critical thinking, and problem solving. Beginning Algebra is to help students solidify and transfer their concrete mathematical knowledge to more abstract algebraic generalizations. Students will explore operations on algebraic expressions, and apply mathematical properties to algebraic equations by solving problems using equations, graphs and tables to investigate linear relationships.

UC/CSU Approval: “c” approved

Grade Level: 9

Estimated Homework Per Week: 1-2 hours

Prerequisite: HSPT placement

Recommended Prerequisite Skills:
- Connecting ratio and rate to whole number multiplication and division
- Using concepts of ratio and rate to solve problems.
- Performing operations with positive and negative rational numbers.
- Understanding the use of variables in mathematical expressions and equations.
- Writing, interpreting, and using expressions, equations, and inequalities that correspond to given situations and solve problems.
- Finding common factors and multiples.

Course Grade Scale:
- Tests (35%)
- Quizzes (25%)
- Assignments (25%)
- Final (15%)
Major Assessments/Units/Topics:  Topics include recognizing and developing patterns using tables, graphs and equations. In addition, students will explore operations on algebraic expressions, apply mathematical properties to algebraic equations. A midterm test and final will be given.

Semester 1 units will cover the following:
- Solving and understanding equations and inequalities
- Working with functions and understand their relationships as well as modeling with functions
- Solve linear equations and systems of equations using various methods.
- Comparing and solving for rational numbers
- Solving Absolute value equations

Semester 2 units will cover the following:
- Understanding how figures behave under translations, reflections, dilations, and rotations.
- Using transformations to understand congruence and similarity, describe and analyze two-dimensional figures, and to solve problems.
- Solving problems about lines, angles, triangles, and quadrilaterals.
- Using a coordinate system to verify geometric relationships.
- Representing and analyzing quantitative relationships between dependent and independent variables.
- Develop understanding of statistical variability.
- Summarizing and describing numerical data sets and distributions, identifying clusters, peaks, gaps, and symmetry, considering the context in which the data was collected