Course Objectives/Course Outline
Spokane Community College

Course Title: College Algebra
Prefix and Course Number: MATH 108

Course Learning Outcomes:
By the end of this course, a student should be able to:

- Identify the connections between mathematics and real life, and relate their everyday language to the language and symbols of mathematics.
- Recognize and identify types of problems, formulate questions, choose and apply appropriate procedures.
- Recognize relationships among different topics in mathematics, and use learned strategies to solve a wide variety of applications.
- Understand and apply various expressions, equations, and inequalities.
- Understand rational exponents and radicals.
- Demonstrate an understanding of the fundamental concept of a mathematical function and all of its properties.
- Graph equations including functions and inequalities.
- Solve systems of equations and inequalities.
- Justify solutions and the problem solving process; verify and interpret solutions with respect to the original problem.

Course Outline:

I. Functions
   A. Defining and evaluating functions
   B. Finding Domains and Ranges
   C. Finding any x-intercepts and the y-intercept of a function
   D. Using operations with functions
   E. Finding the inverse of a one-to-one function
II. Graphing and Coordinate Geometry
   A. Graphing Functions
   B. Using symmetry, increasing, and decreasing of functions in graphing
   C. Graphing and Finding equations of Lines
   D. Using the distance formula and the Pythagorean Theorem
III. Algebraic Fractions
   A. Simplifying rational expressions
   B. Using operations with algebraic fractions
IV. Exponents and Radicals
   A. Simplifying with positive, negative, and rational exponents
   B. Simplifying radicals and using operations with radicals and exponents
V. Equations
   A. Solving linear, rational, quadratic, and absolute value equations
   B. Solving Systems of Equations in two and three variables
VI. Inequalities
   A. Solving linear, rational, and polynomial inequalities
   B. Solving absolute value inequalities
   C. Solving systems of inequalities
VII. Applications
   A. Solving Linear Programming Problems
   B. Solving Modeling Problems
   C. Using the Graphing Calculator in solving problems