

## LABETTE COMMUNITY COLLEGE BRIEF SYLLABUS

### **SPECIAL NOTE:**

This brief syllabus is not intended to be a legal contract. A full syllabus will be distributed to students at the first class session.

### **TEXT AND SUPPLEMENTARY MATERIALS USED IN THE COURSE (if any):**

Please check with the LCC bookstore <http://www.labette.edu/bookstore> for the required texts for this class.

**COURSE NUMBER:** MATH 096

**COURSE TITLE:** BEGINNING ALGEBRA

**SEMESTER CREDIT HOUR:** 3

**DEPARTMENT:** Math

**DIVISION:** General Education

**PREREQUISITE:** Placement test recommendation

### **COURSE DESCRIPTION:**

This course will build skills in basic algebra concepts. Topics covered in the course will include the basic language and terms of algebra, rules for signed numbers, techniques for solving linear, quadratic, and literal equations rules and properties for exponents as applied to algebraic expressions and the graphing and solving of linear equations and linear systems in two unknowns. (Non transferable)

### **COURSE OUTCOMES AND COMPETENCIES:**

**Students who successfully complete this course will be able to:**

1. Perform arithmetic and algebraic manipulation of numerical and algebraic expressions.

- Add, subtract, multiply, and divide signed numbers.
- Apply properties of integer exponents to simplify numerical and algebraic expressions (including scientific notation).
- Define and apply the concepts term, coefficient, and degree to expressions.
- Evaluate the value of an expression by substitution of values for variables.
- Apply the proper order of operations to simplify expressions.
- Perform addition, subtraction, multiplication, and division on polynomials.
- Factor expressions using common factors, grouping, special formulas, and trinomial techniques.
- Perform addition, subtraction, multiplication, and division on rational expressions.

- Evaluate and simplify numerical radicals (includes multiplicative, and quotient properties).

## 2. Solve various types of equations and inequalities.

- Apply properties of equality to solve linear equations.
- Solve linear inequalities and graph solutions on the number line.
- Solve literal equations for a specified variable.
- Develop and solve mathematical models including number, geometric, and percent applications.
- Solve quadratic equations ( $ax^2 + bx + c = 0$ ) using factoring.
- Solve applied problems by translating verbal expressions into mathematical equations.

## 3. Graph points and equations in the Cartesian coordinate system.

- Plot points on the appropriate quadrant or axis of the Cartesian Plane.
- Calculate the slope of a line through two points.
- Graph lines using:
  - i. point plotting.
  - ii. point and slope.
  - iii. x – intercept and y – intercept.
- Identify the x – intercept, y – intercept, and slope of a line given its equation.
- Use two points or a given point and the slope to determine the equation of a line using point – slope and slope – intercept forms.