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 115

COURSE TITLE: COLLEGE ALGEBRA

SEMESTER CREDIT HOURS: 3

DEPARTMENT: Mathematics

DIVISION: General Education

PREREQUISITES: Placement Test Recommendation or C or better in
                            MATH 100 Intermediate Algebra

REVISION DATE: 12/2017

COURSE DESCRIPTION:
This course continues from MATH 100 Intermediate Algebra to cover and extend the properties of functions and their inverses, properties and graphs of the exponential and logarithmic functions, graphing techniques for general higher order polynomials and rational functions, and various solution techniques for solving higher order linear systems of equations. Topics on sequences and series will be presented as time permits. Use of technology such as the graphing calculator and some computer packages will be incorporated into the course.

COURSE OUTCOMES AND COMPETENCIES:
The learning outcomes and competencies detailed in this course outline or syllabus meet or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Groups project for this course as approved by the Kansas Board of Regents.
Kansas Regents Shared Number Course MAT 1010

Students who successfully complete this course will be able to:

1. Analysis and Graphing of Functions and Equations

- Use functional notation.
- Recognize and distinguish between functions and relations (equations).
- Use concepts of symmetry, intercepts, left- and right-hand behavior, asymptotes, and transformations to sketch the graph of various types of functions (constant, linear, quadratic, absolute value, piecewise-defined, square root, cubic, polynomial, rational, exponential, and logarithmic) or relations (circle) given in description.
- Determine the domain and range of a function.
- Write the equation that describes a function (for types given above) or circle given its description.
- Use graphs of functions for analysis.
- Find arithmetic combinations and composites of functions.
- Find the inverse of a function.

2. Solutions of Equations and Inequalities

- Solve equations listed in the third bullet above, i.e., literal equations, quadratic equations by factoring and the quadratic formula, equations involving rational expressions, equations involving radicals, and equations involving absolute value expressions, along with equations involving exponential or logarithmic functions.
- Solve inequalities of the following types: linear (in one and two variables), polynomial, rational, absolute value.
- Solve systems of inequalities by graphing.
- Apply equations from the first bullet in this core outcome to real-world situations, including but not limited to depreciation, growth and decay, and max/min problems.
- Examine and analyze data, make predictions/interpretations, and do basic modeling.
- Solve systems of equations by various methods, including matrices.