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 125

COURSE TITLE: TRIGONOMETRY

SEMESTER CREDIT HOURS: 3

DEPARTMENT: Mathematics

DIVISION: General Education

PREREQUISITES: Placement Test Recommendation or C or better in MATH 115 – College Algebra

REVISION DATE: 12/2017

COURSE DESCRIPTION:
This course will cover the basic trigonometric functions on the right triangle and extend to rules for solving non-right triangles. Trigonometric identities will be derived and proven. Complex numbers and applications to the sciences will be presented. This course should be taken by any student needing to take Calculus I who has not yet had any exposure to the trigonometric functions. This course is recommended for any student needing to take physics and is required for most pre-engineering and engineering programs.

COURSE OUTCOMES AND COMPETENCIES:
The learning outcomes and competencies detailed in this outline meet or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Project for this course, as approved by the Kansas Board of Regents (Transfers as MAT1030).

Students who successfully complete this course will be able to:

1. Define the trigonometric functions using both a right triangle and the unit circle.

2. Define and interpret radian measurement. Recognize and apply circular functions as real-valued functions.

3. Solve for unknown sides/angles within right triangles and know trigonometric function values for special angles (multiples of $\pi/6$ and $\pi/4$).

4. Analyze the graphs of the six basic trigonometric functions and their arithmetic combinations using the concepts of period, phase shift, amplitude, and displacement.

5. Derive/verify trigonometric identities, including but not limited to double angle, half angle, angle sum, and angle difference identities.

6. Define, graph, and apply inverse trigonometric functions.

7. Solve equations involving trigonometric functions.

8. Find solutions of oblique triangles using the Law of Cosines or Law of Sines.

9. Solve applied problems including but not limited to vectors.

10. Derive the trigonometric form of complex numbers and perform calculations with them including products and quotients.

11. Translate between rectangular and polar coordinates and graph within the polar coordinate system.