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 HOUR:	3
DEPARTMENT:	Mathematics
DIVISION:	General Education
PREREQUISITE:	Placement Test Recommendation or MATH 115 College Algebra

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

1. Learn, define, and graph the basic trigonometric functions.

- Define the trig functions as ratios of sides of a right triangle.
- Define the trig functions based upon the coordinates of points on the unit circle.
- Know the two basic triangles and be able to convert them to a table.
- Use the definitions of the trig functions to solve right triangles.
- Use the Law of Sines and Law of Cosines to solve non-right triangles.
- Convert angle measurements between the degree and radian systems.
- Translate the trig functions to the real line for graphing.
- Invert the trig functions and graph them.
- Convert angle measures between degree and radian systems.

2. Solve trigonometric equations using the functions and identities of trigonometry.

- Solve simple trig equations using the inverse sine, inverse cosine, and inverse tangent functions.
- Derive, verify, and prove trigonometric identities.
- Use trigonometric identities to simplify expressions in equations in order to solve equations of trigonometric functions.

3. Use trigonometric functions in applications.

- Analyze and solve navigation and surveying problems using trig concepts.
- Componentize and analyze vectors in physical science applications.
- Write complex numbers in trigonometric form.
- Graph points and curves in the polar coordinate system.
- Convert Cartesian equations and coordinates to polar form.
- Solve trig equations that arise in various physical science problems and models.