<p align="center">**LABETTE COMMUNITY COLLEGE BRIEF SYLLABUS**</p>

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 106

COURSE TITLE: APPLIED MATHEMATICS

SEMESTER CREDIT HOUR: 3

DEPARTMENT: Mathematics

DIVISION: General Education

PREREQUISITE: Placement test recommendation or C or better in Math 088, Foundations of Math.

COURSE DESCRIPTION:
This course is designed to help vocational students and other career minded students develop and refine job-related mathematics skills. The course includes material on arithmetic operations, problem solving techniques, estimation of answers, measurement skills, and geometry.

COURSE OUTCOMES and COMPETENCIES:
Students who successfully complete this course will be able to:

1. Show mastery of basic numerical skills.

- Pass two basic numerical skills tests at 80% proficiency or better to be given at different times throughout the semester.
- Add, subtract, multiply, and divide fractions.
- Apply properties of integer exponents to simplify expressions (including scientific notation).
- Apply the proper order of operations to simplify expressions with multiple operations and grouping symbols.
- Apply properties of decimals, fractions, and percents to convert a given number in one form to the other two forms.
- Solve and analyze applied problems and formulas requiring the use of basic numerical skills.

2. Convert the units of measure of physical quantities into alternative unit systems.

- Define and apply appropriate units of measure to various physical quantities in the English, metric, and apothecary unit systems.
- Apply unit analysis to convert between similar units within and between the unit systems listed in (2a).
- Make measurements and estimate errors in measurement using various measuring devices.

3. Apply the rules and basic concepts of algebra to solve various types of equations.

- Evaluate an expression by substituting numerical values for variables.
- Combine expressions using addition, subtraction, and multiplication.
- Analyze written text and mathematical expressions in order to convert one to the other.
- Apply properties of equality in order to solve simple equations and formulas.
- Apply the concepts of proportion and variation to set up and solve equations.
- Apply previously learned techniques for solving equations to solve literal equations in applied problems.

4. Produce and analyze charts and graphs of data and equations from given tables, experimental results, and equations.

- Define and produce pie charts, bar graphs, scatter plots, and line (xy) plots from given tables and sets of data.
- Analyze sets of data to determine the appropriate type of chart or graph to be used (see 4a).
- Reconstruct a set of data values from a given chart or graph.
- Apply statistical concepts like mean, median, and others to analyze data from a table, chart, or graph.
- Plot ordered pair coordinates (x , y) on the appropriate quadrant or axis in the Cartesian coordinate system.
- Calculate the distance and midpoint between two given points.
- Substitute values into equations to plot lines and simple curves.
- Determine equations from sets of data and graphs.