CUMBERLAND COUNTY COLLEGE

Course: **MA 122 Business Calculus**

Credits: 4

Prerequisites
Placement into PreCalculus MA 121 via a CLM score of 60 or greater, or successful completion College Algebra MA110 with a C or higher.

Description
An introduction to the basic concepts of differential and integral calculus for the business and the social sciences. Emphasis is placed on practical applications of limits, derivatives and integrals with business applications highlighted. This course also provides experience with and information about the significance and specific uses of the calculus in today's world.

This course is not intended for students in mathematical and physical sciences, engineering, or computer science. It is not equivalent to MA 130 and will not transfer as Calculus I.

Learning Outcomes
At the completion of the course, students should be able to:

- Evaluate limits of functions from their graphs and/or equations.
- Analyze and apply the notions of continuity and differentiability to algebraic functions.
- Determine derivatives for functions involving powers, exponentials, logarithms and combinations of these functions
- Use basic integration techniques to solve simple differential equations.
- Apply the Fundamental Theorem of Calculus to evaluate definite integrals.
- Apply the concepts of limits, derivatives and integrals to solve problems involving functions unique to business applications and interpret the results.

Related General Education Outcomes

- Students will translate quantifiable problems into mathematical terms and solve these problems using mathematical or statistical operations.
- Students will construct graphs and charts, interpret them, and draw appropriate conclusions.

Topical Outline

- Review of Functions, Graphs & Modeling
- Limits and Differentiation
- Applications of differentiation connected to business and social sciences
- Exponential and Logarithmic Functions
- Integration
- Application of integrations connected to business and social sciences

Required Texts and Other Materials
Calculus and it's applications, 11th edition, by Bittinger & Ellenbogen and Surgent, 2016, Pearson

Student Assessment
Assessment may be accomplished through projects, portfolios, online assignments, exams, presentations and/or papers.

Academic Integrity
Plagiarism is cheating. Plagiarism is presenting in written work, in public speaking, and in oral reports the ideas or exact words of someone else without proper documentation. Whether the act of plagiarism is deliberate or accidental [ignorance of the proper rules for handling material is no excuse], plagiarism is, indeed, a "criminal" offense. As such, a plagiarized paper or report automatically receives a grade of **ZERO** and the student may receive a grade of **F** for the semester at the discretion of the instructor.

Available Resources
If you are having difficulty with work in this class, tutoring is available through the Success Center. If you think that you might have a learning disability, contact Project Assist at 856.691.8600, x1282 for information on assistance that can be provided to eligible students.

Before Withdrawing From This Course
If a student experiences adverse circumstances while enrolled in this course and considers withdrawing, s/he should see an advisor (division or advisement center) BEFORE withdrawing from the class. A withdrawal may cause harmful repercussions to completion rate standards and overall GPA which can limit or eliminate future financial aid in addition to causing academic suspension.