CLOUD COUNTY COMMUNITY COLLEGE

Our Mission: Cloud County Community College prepares students to lead successful lives and enhances the vitality of our communities.

**GENERAL INFORMATION**

**Course Number and Title:** MA 115 General Calculus

**Term and Year:**Academic Year 2022-2023

**Credit Hours**: 3

**Course Description**: This course is an introduction to calculus and linear algebra concepts particularly useful to economics and business administration students. It requires no knowledge of trigonometry, and is not intended for a student seeking a degree in a science related "eld. Topics covered include limits, derivatives, multivariate calculus, basic integrals, and systems of equations. Practical applications include analysis of mixing problems, optimization, analysis of graphs for sales and marketing purposes, and marginal analysis. Prerequisite: College Algebra with a C or better.

**Prerequisites**: College Algebra with a grade of C or better.

****Division:**** Mathematics, Science, and Technical Programs
**Department:** Mathematics and Engineering

**STUDENT LEARNING OUTCOMES AND ASSESSMENT**

**Course Learning Outcomes**

For this course, students are expected to demonstrate the skills associated with the course learning goals as described by the student learning outcomes below:

1. Evaluate limits of functions.
2. Use limits to determine continuity of a function at a point.
3. Determine differentiability of a function at a point.
4. Differentiate algebraic, exponential, and logarithmic functions.
5. Interpret derivatives as the slopes of tangent lines, instantaneous rates of change, and marginals.
6. Use derivatives to describe the behavior of a function.
7. Apply derivatives to problems including those in economics, business, and the sciences.
8. Calculate antiderivatives of algebraic and exponential functions.
9. Evaluate definite integrals.
10. Apply antiderivatives to problems including those in economics, business, and the sciences.

The learning outcomes detailed in this syllabus meet or exceed the learning outcomes specified by the Kansas Core Outcomes Project for this course as sanctioned by the Kansas Board of Regents to ensure transfer between Kansas colleges and universities. Systemwide Transfer (SWT) Code: MAT1050

In class, students are assessed on the mastery of these outcomes using the learning management system. Student names will not be used when reporting results. Outcomes-based assessment is used to improve the instructional planning, design, and quality of student learning throughout the college

**General Education Outcomes**

For this course, students are expected to demonstrate the skills associated with the college wide learning goals as described by the general education/program outcomes below:

GEM1. Recognize the mathematical concepts that are applicable to a scenario.

GEM2. Apply technology in analysis.

GEM3. Accurately interpret, validate, and communicate the result.

Artifacts of student work are collected from general education course and reviewed by a faculty committee to assess general education outcomes. Artifacts may also be reviewed by a professional outside the college. Student names will not be used when reviewing artifact nor reporting results. Program accomplishment is partially measured through performance on program outcomes. Outcomes-based assessment is used to improve the instructional planning, design, and quality of student learning throughout the college.

**Institutional Learning Outcomes**

For this course, students are expected to demonstrate the skills associated with the college wide learning outcomes as described below.

*Employment*

**Employment:**

ILO\_Em1. Demonstrate knowledge of norms and expectations of professional environments.

ILO\_Em2. Demonstrate skills in working with others in a professional and constructive manner.

In class, students are assessed on the mastery of these outcomes. Student names will not be used when reporting results. Outcomes-based assessment of the institutional learning outcomes is used to ensure we are meeting the mission of the college, following the guiding values and enhance instructional planning, design, and quality of student learning throughout the college.