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 114 Elementary Statistics

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

**Credit Hours**: 3

**Course Description**: This course is designed for students with adequate algebra background to cover introductory, non-calculus based statistics. Topics covered will include sampling and displaying data, measures of central tendency and variation, introductory probability theory, discrete probability distributions (binomial), normal distributions, standard normal distributions, sampling distributions and the central limit theorem, estimating parameters, hypothesis testing, regression and correlation, chi-square, and non-parametric statistics. Prerequisite: College Algebra with a C or better.

**Prerequisites**: appropriate test scores or Intermediate 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:

Upon completion of this course, students will be able to:

1. Create graphical and numerical descriptions of quantitative and qualitative data

2. Calculate probabilities and percentiles related to a general normal distribution

3. Distinguish differences in data analysis and interpretation between observational data and data from designed experiments

4. Calculate and interpret a confidence interval for a single parameter, using both large and small samples

5. Perform and interpret a test of hypotheses for a single parameter, using both large and small samples 6. Perform and interpret statistical inference on the difference of two parameters

7. Fit and interpret a simple linear regression model, including correlation and scatterplots

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: MAT1020

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.