MATH 93 - Foundational Mathematics for Statistics Course Outline

Approval Date: 12/09/2021
Effective Date: 08/12/2022

SECTION A

Unique ID Number CCC000602587
Discipline(s) Mathematics
Division

Distance Education Mode of Instruction
On-Campus
Hybrid
Entirely Online
Online with Proctored Exams

SECTION B

General Education Information:

SECTION C

Course Description

Repeatability May be repeated 0 times

Catalog Description Math 93 provides students with the algebraic skills necessary for success in Statistics (Math 232). Students will learn to use core concepts from arithmetic, prealgebra, elementary and intermediate algebra, with emphasis on solving and graphing linear equations; modeling with linear functions; solving contextualized problems; and dimensional analysis. This course is not intended for math, science, computer science, business, or engineering majors.

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SECTION D

Condition on Enrollment

1a. Prerequisite(s): *None*

1b. Corequisite(s): *None*

1c. Recommended

It is expected that students have a fundamental understanding of signed numbers, including decimals and fractions.

1d. Limitation on Enrollment: *None*

SECTION E

Course Outline Information

1. Student Learning Outcomes:

A. Perform arithmetic and/or algebraic operations, as needed for statistics calculations.
B. Create graphs such as histograms, dot-plots and lines.
C. Interpret the slope and y-intercept of a linear equation.

2. Course Objectives: Upon completion of this course, the student will be able to:

A. Perform arithmetic operations involving integers, fractions and decimals.
B. Identify common irrational numbers used in statistics.
C. Convert between scientific notation and decimal notation.
D. Convert between units of measure.
E. Use the Order of Operations to simplify expressions.
F. Translate English sentences into mathematical expressions, equations and inequalities.
G. Solve equations and inequalities with one variable.
H. Graph solutions to equations and inequalities with one variable on the number line.

I.

j. Write and solve linear equations to model data.

E. Fundamentals of Sets
   a. Use list notation to write sets.
   b. Determine the intersection, union and complement of sets.
   c. Construct and use Venn diagrams.
   d. Construct a tree diagram and apply the multiplication principle to count outcomes.
   e. Use factorial notation.
   f. Compute sums involving constants and powers.
   g. Compute the square of a sum and the sum of a square.

F. Introduction to Functions
   a. Find the domain and range of a function.
   b.

2. State and interpret the slope of the of the line given by the equation; Calories = 25.7 + .05Fat

Letter Grade or P/NP

5. Assignments: State the general types of assignments for this course under the following categories and provide at least two specific examples for each section.

A. Reading Assignments
   Read the section on slope as a rate of change before our next class and be ready to apply those concepts to an in-class activity.
B. Writing Assignments
   Example 1. Online or Paper Homework: Complete assigned exercises from the applicable section in the text.

   Example 2. Group Project: Given the scatterplot and regression equation, determine whether or not there is linear correlation between the data sets. In addition, interpret the slope and y-