SYL-2021-BUS338-Steele-Thaddeus
Course Title: Bus 338 Business Statistics I
Course Instructor: Thaddeus Steele,
Academic Rank--Instructor academic rank,
Office location--Room 213 Houston Harte Center
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Spring 2021 Syllabus
Office hours: TBA

Course Description:

Students will work with probability, data collection, descriptive and inferential statistics, probability, and technological tools to analyze statistics. The main foci of the course will be exploring data, planning a study, producing models using probability theory, and making statistical inferences. Students will work with statistical measures of centrality and spread, methods of data collection, methods of determining probability, binomial and normal distributions, hypothesis testing, and confidence intervals. Students will use multiple representations to present data including written descriptions, numerical statistics, formulas, and graphs.

Mode of Instruction: Ground

Course Objectives:

Upon completion of the course, students are expected to be able to

1. Calculate and apply measures of location and measures of dispersion -- grouped and ungrouped data cases.
2. Apply discrete and continuous probability distributions to various business problems.
3. Perform Test of Hypothesis as well as calculate confidence interval for a population parameter for single sample and two sample cases. Understand the concept of p-values.
4. Learn non-parametric test such as the Chi-Square test for Independence as well as Goodness of Fit.
5. Compute and interpret the results of Bivariate and Multivariate Regression and Correlation Analysis, for forecasting and also perform ANOVA and F-test. Further, understand both the meaning and applicability of a dummy variable and the assumptions, which underline a regression model.
6. Be able to perform a multiple regression using computer software.

Course Units Major topics and Schedule

Week 1

Chapter 1 The Nature of Probability and Statistics

Unit 1-1: Descriptive and Inferential Statistics

Unit 1-2: Variables and Types of Data

Week 2

Chapter 1

Unit 1-3 Data Collection and Sampling Techniques

Unit 1-4: Observational and Experimental Studies

Keyword Terms Chapter 1 &2 Due

Week 3

Chapter 2 Frequency Distributions and Graphs

Unit 2-1 Organizing Data

Unit 2-2 Histograms, Frequency Polygons, and Ogives

Week 4

Chapter 2

Unit 2-3 Statistical Graphs

Chapter 2 Review Exercises Due

Exam

Week 5

Chapter 3 Data Description

Unit 3-1 Measures of Central Tendency

Key Word Terms Due

Week 6

Chapter 3

Unit 3-2 Measures of Variation

Week 7

Chapter 3

Unit 3-3 Measures of Position

Unit 3-4 Exploratory Data Analysis

Review Exercises Chapter 3 Due

Week 8

Exam 2 on Chapter 3

Chapter 4 Probability and Counting Rules

Unit 4-1 Sample Spaces and probability

Week 9

Chapter 4

Unit 4-2 The Addition Rules for Probability

Unit 4-3 The Multiplication Rules and Conditional Rules

Key Word Terms Due

Week 10

Chapter 4

Unit 4-4 The Counting Rules

Unit 4-5 The Probability and Counting Rules

Chapter 4 Exercises Due

Exam 3 on Chapter 4

Week 11

Chapter 5 Discrete Probability Distributions

Unit 5-1 Probability Distributions

Unit 5-2 Mean, Variance, Standard Deviation, And Expectation

Keyword Terms Due

Week 12

Chapter 5

Unit 5-3 The Binomial Distribution and other types of Distributions

Chapter 5 Review Exercises Due

Week 13

Chapter 6 The Normal Distribution

Unit 6-1 The Normal distribution Curve as Probability

Course Evaluation Methods

This course utilizes the lecture/discussion method and will utilize the following grading percentages:

Keyword Terms	10%
Chapter Reviews	15%
Exams	55%
Attendance and Participation	10%
Total	100%

VII. **Course Textbook**
 Name of required textbook(s):

Bluman, Alan G., Elementary Statistics, A Step-by-Step Course Reading List: Approach.,
 9th Edition, McGraw Hill Education, 2014,
ISBN:978-0-07-353498-5