NAU NORTHERN ARIZONA UNIVERSITY

Course Title: STA 270 Applied Statistics

Term: Fall 2022

Instructor: TBA

Course Credit: 3

Mode of Instruction: Online

Course Description:

Statistics is the science concerned with developing and studying methods for collecting, analyzing, interpreting and presenting empirical data, which is a highly interdisciplinary field. This course provides students with a comprehensive introduction of statistics and its application, covering various statistical methods. Main topics such as description of data, distributions, hypothesis tests and confidence intervals, simple linear regression and correlation, random variables and more will be included in this course. After finishing this course, students will have a general understanding of what statistics represent and develop basic knowledge structure for deeper learning.

Course Prerequisites:

N/ A

Learning Outcomes:

By the end ofthe course, the student should be able to:

A. Understand, apply and appreciate the role of statistics in own field of study;

B. Get insight into and use the most common estimation methods;

C. Perform estimation in regression models and evaluate a proposed model;

D. Apply appropriate statistical methods to summarize and analyze data;

E. Analyze and solve statistical application problems;

F. Build up a sound foundation and cultivate critical thinking for deeper learning.

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Course Material:

Neil A. Weiss, ***Elementary Statistics***, 8th Edition, Addison Wesley, 2011

Evaluation:

- 2 Assignments [40%]
- Mid-term Exam [25%]
- Final Exam [35%]

Description of the Evaluation tasks:

Assignment/ Essay/ ... : During the term, students will be required to finish several evaluation tasks within due date. All the tasks are linked with specific course topics/ outcomes and will adequately assess students' competence and learning outcomes. Students are encouraged to meet with instructor about these tasks at any point.

Mid- term/ Final Exams/ Quiz/. . . : There may be periodic quizzes given at the beginning of lecture sessions; the feedback from these quizzes will monitor the progress of the learners and help to set learning priorities. There will be mid-term exam/ final exam for the course. They are the basic criteria for the evaluation of students' learning outcomes and final grade.

Grading Policy:

Students are supposed to finish each online lecture. Prior to each class, students should finish the required readings. During the class time, students are encouraged to make use of all relevant online course resources and communicate with the instructor. Students' grades are accumulated based on the cumulative evaluations.

Students' letter grade will be assigned according to the following scale:

A+ 90- 100	A 85-89	A- 80-84
B+ 77-79	B 73-76	B- 70-72
C+ 67-69	C 63-66	C- 60-62
D+ 57-59	D 53-56	D- 50-52
F < 50		

Academic Integrity:

Students must strictly adhere to the university' s academic integrity rule; and all essays, exams and any other form of academic assignments must adhere to these rules. Any form of plagiarism, cheating, or misappropriation of materials will be considered a violation of academic integrity and will be punishable by the university.

Withdrawal from the Course(s):

Students will be able to apply for a transfer or withdrawal within 3 days of the starting date ofthe course. If a withdrawal is applied for within 3 working days, the tuition fee will be fully refunded. After 3 days, the tuition fee will not be refunded. If a withdrawal is applied for in the first two weeks, it will be recorded as W (Withdraw) on the course transcript. After this initial two-week period, the class will be recorded as F (Fail).

Tentative Schedule:

Week 1	
1	Course Introduction
2	The Nature of Statistics
3	Descriptive Statistics
4	Descriptive Measures
5	Descriptive Methods in Regression and Correlation

	Assignment#1
6	Inferential Statistics
7	Inferential Statistics (Cont.)
8	The Normal Distribution
9	The Normal Distribution (Cont.)
10	The Sampling Distribution ofthe Sample Mean
11	**Midterm Test**
12	Confidence Intervals for One Population Mean
13	Hypothesis Tests for One Population Mean
14	Inferences for Two Population Means
15	Inferences for Population Proportions
Week 4	
16	Chi- Square Procedures
17	Analysis ofVariance(ANOVA)
18	Inferential Methods in Regression and Correlation
19	Inferential Methods in Regression and Correlation (Cont.)
20	Probability **Assignment# 2**
Week 5	
21	Random Variables
22	Organizing Data
23	Sampling Distributions
24	Final Exam Reviews
25	**Final Exam**