STA 220 - Statistics In Modern Society

Instructor: Guangyu Zhu (guangyuzhu@uri.edu)

Format:
- **Course hours:**
- **Modules:** 8 modules total.
- **Delivery:** Online, asynchronous

Daily Tasks:
- Watch assigned lecture videos
- Review corresponding slides and materials
- Complete quizzes or exams for the completed module

Materials:
- Lecture slides are available on Brightspace
- All coursework will be submitted via Brightspace
- **Optional textbook (not required):**
  - *Intro Stats*, 5th Ed. (DeVeaux, Velleman, Bock), Pearson, 2018. (Older editions are also acceptable.)
  - Bundle: *Intro Stats + MyStatLab*, 5th Ed., Looseleaf Version, ISBN 9780134210223 (older editions acceptable)

Course Summary

This is an introductory statistics class that begins with exploring and understanding data including how to summarize data with graphs, statistics, and verbal descriptions. The class then progresses to exploring relationships between different variables, as well as learning about randomness and probability.

Course Outline

Topic #	TOPIC	READING
1.	What is Statistics, Data, Variables and Models	Chapter 1
2.	Displaying and Describing Data	Chapter 2
3.	From Randomness to Probability	Chapter 12
4.	Relationships between Categorical Variables	Chapter 3
5.	Understanding and Comparing Distributions	Chapter 4
6.	The Standard Deviation as a Ruler and the Normal Model	Chapter 5
7.	Scatterplots, Association, and Correlation	Chapter 6
8.	Linear Regression	Chapter 7

Course Goals

- Describe data in context - Who, What, When, Where, Why and How of a data set, or recognize when some of this information has not been provided.
- Identify, describe, summarize, and display distributions of categorical and quantitative data and associated descriptive statistics including measures of center and measures of variability.
- Compare observations and/or distributions of different groups of data and interpret trends/patterns, differences, and relationships, being able to quantify this with appropriate statistical measures and methods.
- Manipulate, determine and interpret probabilities of specific events based on basic probability concepts and use of contingency tables and Venn Diagrams, as well as the Law of Large Numbers.
- Demonstrate mastery of statistical procedures including collection and analysis of data, interpretation of statistical results, and drawing appropriate conclusions through completion of class project.

Learning Outcomes

Upon successful completion of this course, each student will be able to:

- Perform basic statistical data analysis
- Identify the correct methodology to use for a given problem
- Use computational tools
- Perform parameter estimation
- Quantify estimates uncertainty
- Interpret the results in relation to the original question

Quiz

- There will be **6 quizzes**, aligned with Modules 1–3 and 5–7.
- All quizzes will be administered through Brightspace and will consist of multiple-choice questions.
- Each quiz must be completed by **11:59 p.m.** on its scheduled day.
- Each quiz carries equal weight toward the final grade.
- Each quiz consists of **12 multiple-choice questions**.

Exams:

- **Exam format:** Two online exams, each consisting of 25 questions. Questions will be similar in format and style to the quiz questions.
- **Early exam policy:** If you know in advance you cannot take an exam on the scheduled date, you must arrange to take it **before** the official exam date.
- **Missed exams: No makeup exams** are offered. If you miss an exam due to unforeseen circumstances, you must notify the instructor promptly and provide documentation.

Calculator

It is recommended that you have a calculator to use for the class and exams. Cell phone use WILL NOT be permitted during class and exams.

Grading:

Participation	5%
Quiz	45%
Exam 1	25%
Exam 2	25%

Final letter grades will be assigned as follows:

A = 93-100 A− = 90-92 B+ = 87-89 B = 83-86 B− = 80-82 C+ = 77-79
C = 73-76 C− = 70-72 D+ = 67-69 D = 60-66 F = <60

Course Policies:

This class will adhere to all of the instructor policies found at http://web.uri.edu/teach/instructor_policies/. This includes the policies for attendance, academic honesty and integrity, standards of behavior, academic enhancement, and accommodation for special needs

Any important notice- excluding those sent by the Emergency ALERT - will be sent via email (i.e. cancellation of class due to professor's illness, change of due dates for assignments, change of examination data, etc).