STA 409 Statistical Methods in Research I

Winter J-Term 2021

Online

Department of Computer Science & Statistics

University of Rhode Island

Instructor :Soheyb Kouider

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Class Days/Time :Online MTWTH 10-11:45 AM

(Virtual Classroom) on Brightspace

Online Office Hours : by appointment

Graduate Assistant : NA

TA Office Hours :NA

TA Email : NA

I. **Prerequisites:** MTH 131 or MTH 141
II. **Optional Text/Readings (slides provided)**

Statistics: Principles and Methods, 7th Ed.Johnson and Bhattacharyya, Wiley, 2014. A copy of the textbook is on reserve at the URI library. Additional Course Material will be posted on Brightspace.

III. **Course Description**

In this course, you will gain knowledge and experience on statistical analysis and probability with applications to real-life studies. Main topics will include descriptive statistics, probability distribution, one and two-sample inference for population means and population proportions, introduction to simple linear regression.

Lecture notes will be posted on Brightspace under each week and available in resource.

IV.   Course Objectives and Expectations

- To learn some commonly used statistical techniques.
- To apply these techniques in describing and analyzing data.
- To recognize their common usage and limitations.
- To recognize sound/good statistical studies.
- To gain an appreciation for quantitative analytical skills.

V.   Exams and Grading

Homeworks	:20%
Quizzes	:20%
Tests	:50%
Discussions	:10%

IMPORTANT: No make up exams! No late assignments!

VI.   Miscellaneous

Homework and Quizzes:

Homework and Quizzes will be assigned weekly. All 10 homework and Quizzes are online on brightspace. No late homework or quiz will be accepted. You will have unlimited attempts on the HW and a limited(2/3) number of attempts on quizzes, you may asks questions through the discussion forum. Copying from someone is strictly prohibited. Refer to the tentative timetable regarding due dates for assignments.

Discussions:

There will be 8 discussions total, Please be respectful in your posts and in your replies. Discussions are meant to make sure students are on track and not falling behind on their readings. Each discussion is worth 1 point.

Exams:

There will be a total of 7 tests, refer to the time table for dates. If a student knows before hand that he/she will not be able to take an exam (missing a whole week), it is the responsibility of the student to notify the instructor. No exams will be given after the official examination date. Refer to tentative timetable for dates.

No make-up exams! If the student is unable to take an exam for any reason beyond his/her control, the reason/proof should be discussed with/provided to the instructor.

Academic Honesty:

Students are expected to abide by the Honor Code of the University of Rhode Island. During the Tests and Quizzes, students are required to work independently. For the homework assignments, students may work with others.

Disability Accommodations and Opportunities:

Please contact me if you require special accommodations due to learning disabilities. Confirmation is required. As part of this process, please be in touch with Disability Services for Students Office at 330 Memorial Union, 874-2098.

Incomplete Grades:

The University policy regarding incomplete grades follows:

"A student shall receive a report of Incomplete in any course in which the course work has been passing up until the time of a documented precipitating incident or condition, but has not been completed because of illness or another reason which in the opinion of the instructor justifies the report. (Section 8.53.20 University Manual)."

Granting an Incomplete grade will not be considered unless the University policy is fulfilled.

Calculator:

It is recommended that you have a calculator to use for the class and exams.

Classroom Etiquette:

Please be respectful of others in the online discussions.

Communication with Class in the Event of an Emergency:

The University of Rhode Island uses an emergency notification system, URI EmergencyALERT that allows news and instructions to be sent quickly to all members of the University community in the event of an emergency. Through this system, the University is able to deliver emergency notices simultaneously via voicemail, text-messaging and email to the entire student, faculty, and staff population within minutes. This system is also used to provide immediate notification of class cancellation(s) in the event of weather events, such as severe snowstorms.

Additional information on the EmergencyALERT system at URI is provided at http://www.uri.edu/emergency/alert.html. Any important notice- excluding those

sent by the EmergencyALERT - will be sent via e-mail. This includes cancellation of class due to instructor's illness, change of due dates for HW, change of exam dates, etc.

COURSE OUTLINE AND READING ASSIGNMENTS

We will follow the class schedule below, however some adjustments could be made if necessary.

	TOPIC	READING
1.	Introduction	Chapter 1
2.	Organization and Description of Data	Chapter 2

3.	Bivariate Data & Introduction to Correlation	Chapter 3 (3.1-3.4)
4.	Probability	Chapter 4
5.	Discrete Probability Distributions	Chapter 5
6.	The Normal Distribution	Chapter 6
7.	Sampling Distributions	Chapter 7
8.	Drawing Inferences from Large Samples	Chapter 8
9.	Small Sample Inference for Normal Populations	Chapter 9
10.	Comparing Two Treatments (or Populations)	Chapter 10
11.	Introduction to Correlation and Linear Regression	Chapter 3 (3.5-3.6)
12.	Simple Linear Regression	Chapter 11, 12

Final Grading Scale

A 93% - 100%

A- 90% - 92.99%

B+ 87% - 89.99%

B 83% - 86.99%

B- 80% - 82.99%

C+ 77% - 79.99%

C 73% - 76.99%

C- 70% - 72.99%

D+ 67% - 69.99%

D 60% - 66.99%

F 0% - 59.99%