

Course Information and Syllabus

MATH 040-10: Probability and Statistics

Summer 2018- Session 1

Time and Location: Monday-Thursdays 10:45am-1:25pm,
Reiss 282

Instructor: Dr. Ali Arab
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Office Hours: By appointment only

Course Overview

The primary objective of this beginning course in statistics is to have students learn and understand statistical concepts without being overwhelmed by cumbersome formulae and computations. The emphasis will be on the following topics:

- Data exploration and graphical techniques
 - Descriptive statistics
 - Measures of center and spread
 - Graphical display
- Relationship between two variables
 - Contingency tables
 - Correlation
 - Linear regression
- Probability theory
- Sampling methods
- Random variables and probability distributions
- Statistical inference
 - Interval estimation
 - Hypothesis testing
- Comparing two groups
 - Comparing two means (independent samples; matched pairs)
 - Comparing two proportions (*time-permitting*)

All classes will be held in the computer lab where the statistical software MINITAB will be taught and used to simplify computation and enhance graphical presentations.

Course Objectives

By the end of the course, students are expected to:

- demonstrate conceptual understanding of the methods covered and their underlying assumptions

- perform data analysis using the appropriate statistical method
- interpret statistical output in the context of the application area

Required textbook

Introduction to the Practice of Statistics 9th edition and LaunchPad
(See announcement on Blackboard for enrollment instruction details)

Webpage

Canvas

You are required to visit this page at least once a day. Announcements will usually only appear on the web page.

Calculator

Calculators are optional. Models from the TI-83 or TI-84 family will work fine.

Prerequisites

See course catalog

Homework Assignments

- There will be regular homework assignments.
- We will use a technology based assessment tool (LaunchPad) for the course.
- **Late homework submissions will receive a score of zero points!**

Computer Software

The computer software that we will use in this course is Minitab.

Minitab is installed on all computers in campus laboratories and dorm computer clusters, so you don't have to purchase a copy. However, if interested, you may contact UIS for more information on obtaining a personal copy.

Assessments

There will be **three** quizzes (on Mondays) and a Final Exam (last class).

Quiz 1	Monday June 11
Quiz 2	Monday July 18
Quiz 3	Monday July 25
Final Exam	Thursday July 5

Grading

Homework assignments	25%
Quizzes	39% (13% each)
Final Exam	36%
Total	100%

Grading scheme

A	94% or more	A-	90% or more
B+	86% or more	B	82% or more
B-	78% or more	C+	74% or more
C	70% or more	C-	66% or more
D+	62% or more	D	56% or more

The break points for grades are subject to downward revision, but will not be raised.

Class Participation

You are required to attend all lectures and lab sessions. The instructor reserves the right to penalize students for **low attendance** as well as **low participation during lectures**.

Important Note Regarding Class Participation

You need to attend every lecture and you are encouraged to participate in classroom discussions.

Any activity that causes distraction in classroom to you, the instructor, or your fellow classmates is prohibited. This includes checking your phone, tab or laptop, as well as text messaging. I will reserve the right to call students on their behavior that causes distraction for the instructor or other students.

Please respect the classroom environment!

Needless to say, using your phone, texting, using your tablet, laptop, or other electronics falls within the distracting activities mentioned above. Another very

distracting and disrespectful activity during lecture is using lab computers for purposes not related to the lecture.

The computers in the lab should only be used for class related activities. Instructor will reserve the right to dismiss any students that do not adhere to this policy.

If you need to use your phone, tablet or laptop (no matter how brief this is) you may step out of the room for a short while.

Honor Code

Remember that your work **MUST BE YOUR OWN**. Plagiarism and cheating will be swiftly dealt with to the full extent allowed under Georgetown policies (see details [here](#)).