The University of Chicago
Booth School of Business

BUS 41000-81
Business Statistics
Summer, 2025
Tuesday 6-9pm, June 17 to August 12.

Instructor: Robert McCulloch
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web:

`http://www.rob-mcculloch.org/bs_2025/webpage/index.html`

Course Mode

The teaching mode is remote. Tests (quizzes, midterm and final) will be online with canvas and zoom. We will meet weekly on zoom at the regularly scheduled class times.

Video versions of the notes are available on the webpage.

Course Description

This course assumes no prior knowledge of statistics. We cover

1. Introduction, Probability Concepts and Decisions

2. Learning from Data:
   Estimation, Confidence Intervals and Testing Hypothesis

3. Simple Linear Regression

4. Multiple Linear Regression

5. Topics in Regression

6. Naive Bayes

Texts/Notes

There is no course pack. All lecture notes and course materials will be available in the class website.

Optional books are :

- Traditional book: Statistics for Business: Decision Making and Analysis 3rd edition, Stine and Foster

- An introduction to R and statistics is: Introduction to Data Science, Data Analysis and Prediction Algorithms with R, Rafael A. Irizarry

- An introduction to R: Introduction to Data Science, Data Wrangling and Visualization with R, 2nd edition, Rafael A. Irizarry

Evaluation

Grades will be determined by quizzes (10%), a midterm exam given on the 6th week (40%), and a final exam (finals week)(50%). I have a mulligan policy, i.e., I compute the grade based on the 10/40/50 percentages and then on the final alone and take the maximum of the two.

There will be optional (practice) homework assignments throughout the quarter.

It is expected that students will complete all exams for the course. No request for rescheduling of an exam will be entertained on (or after) the date of the exam. Only extreme personal problems are a reason for rescheduling of an exam.

Request for Regrade

Clerical errors will be corrected without hassle. Other regrade requests must be submitted in writing within one week (7 days) of the exam's return. Keep in mind that the entire exam will be subject to regrading.

Office Hours

There will be no official office hours. If you have a problem, try emailing the TA first. But, you are always free to email me. We can schedule a chat with anyone that wants to schedule an appointment.

Software

We will use R and/or excel.

Tests will not require knowledge of R or excel so it is up to the student how much they want to dive into what software. You will need software to do the homework.

You can get through the class fine with just excel (or python, or julia ...), but we will be having a look at R as we go along.

For more additional information on R see the bottom of our course web page and: `http://www.rob-mcculloch.org/R/index.html`.

This is a very simple introduction to R that Rob wrote: `http://www.rob-mcculloch.org/R/simple-R_2015-9-30.pdf`.

Swirl: Easy way to learn R This look like it might be a super easy way to learn R: swirl stats . A few simple notes on swirl Data Camp Free Intro to R

Note that if you go to `http://swirlstats.com/students.html` it tells you how to get started installing R, rstudio, and swirl.