

STAT 345 Section 003: Elements of Mathematical Statistics and Probability

Meeting information:

Instructor/Email: Kellin Rumsey - knrumsey@unm.edu
Course Webpage: www.math.unm.edu/~knrumsey/classes/fall18/fall18.html
Meeting place: DSH Hall 333
Meeting time: Monday and Wednesday 6pm-7:15pm
Office: 348 SMLC
Office Hours: See course webpage.

Prerequisite: MATH 181 or MATH 163. It is strongly recommended that you review concepts in calculus such as real functions, limits, differentiation, integration, sequences and series, exponential and logarithmic functions, multivariate calculus, etc.

Textbook: *No textbook is required*

Applied Statistics and Probability for Engineers, 6th Edition by Douglas C. Montgomery and George C. Runger I will be following this textbook "somewhat" closely in terms of notation and order of material. Disclaimer: I'm not a huge fan of this book.

Introduction to probability, statistics, and random processes, H. Pishro-Nik This free online textbook is available at <https://www.probabilitycourse.com>. It is a good resource, and covers very similar material to the above textbook. Sometimes the notation is a little bit different.

A First Course in Probability, 9th Edition by Sheldon Ross. This well known book can be purchased for 15 dollars on Amazon. I recommend it, especially for engineers, math/stats students and computer scientists. It is a little bit more challenging than our textbook, but Ross' book is very very example driven. Probability only.

Course website: All course announcements, assignments, and handouts will be kept on the course webpage (see link above)

Course contents: We will cover most of Chapters 2 through 9 (Montgomery & Runger) including combinatorics, Bayes' theorem, probability distributions, expectation, variance, correlation, descriptive statistics, point estimation, confidence intervals and hypothesis testing.

Grading Policy

- Homeworks (Weekly) - 50%
- Midterm (Probability: Chapters 2,3,4,5) - 25%
- Final Exam (Probability and Statistics: Chapters 2-9) - 25%

Exam Dates: You are allowed one page (front and back) of handwritten notes for the Midterm, and an additional page of notes for the Final.

Midterm: October 15, 2018

Final: Wednesday May 12, 7:45pm,

Homework:

- Homeworks are posted on the course web-page. Homeworks will be due (roughly) every week at the beginning of class on Wednesday (with a few possible exceptions).
- Homeworks should be turned in on the template provided on the webpage. I expect your work to be legible. For some problems, you may need to do your work on scratch paper before transcribing your final answer onto the template. **Staple your homework.**
- You are encouraged to work with others on the homeworks, but homeworks must be written independently. Try to adhere to the *Netflix Rule*. After collaborating on homework, watch an episode or two of your favorite show before writing the report. This ensures that your homework is indeed your own work. Students turning in identical homeworks is not acceptable.
- Solutions to each homework will be posted at the end of class on Tuesday. For each homework I will **either** choose 1-2 problems at random to grade **or** give a short in-class quiz with a problem taken directly from the homework.
- Challenge Problems are never *required*. However, you are awarded points for correct solutions to the challenge problems, which can raise your homework grade.

Miscellaneous: in an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered “responsible employees” by the Department of Education (see pg 15 - <http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf>). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). For more information on the campus policy regarding sexual misconduct, see: <https://policy.unm.edu/university-policies/2000/2740.html>