Instructor: Vu Dinh   Email: vucdinh@udel.edu

Course webpage: http://vucdinh.github.io/m450f20
All handouts (homework assignments, lectures) will be posted at this webpage. Canvas will be used only for submitting work and for access to graded assignments.

Class Times: Tuesday-Thursday: 9:30am-10:45am

Office Hours: Tuesday-Wednesday 1:30pm-3pm

Online meetings: All classes will be live via Zoom at the normal meeting time. I will come online 10 minutes beforehand to answer questions.

Office hours will be via Zoom. Regularly scheduled office hours will be held at the times listed above. You may also contact me to set up an appointment.

Communications: In addition to communications via emails and online appointments, a Slack workspace will be created for the class to accommodate more dynamic learning activities.

Prerequisites: Algebra, calculus, and MATH 350 (or an equivalent course in probability).

This course requires students to have a working webcam for class and remote proctoring for exams. If you do not have a camera, please see if you can borrow one from a friend or relative. Inexpensive webcams can also be purchased online for less than $30.

Reference:
Modern mathematical statistics with applications (2nd edition)
Devore and Berk (Springer, 2012)

The text is available online from the UD library.

Topics: The aim is to cover Chapter 1 and Chapters 6-12. Topics include sampling distributions, parameter estimation, maximum likelihood estimation, hypothesis testing, confidence intervals, correlation and regression. The course also includes application of *R* to perform data analysis.
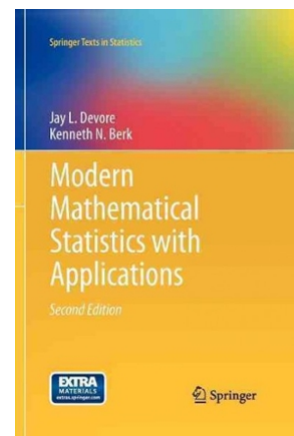
Homework: In most cases, assignments will be posted on the web every other Tuesday (starting from the first week) and will be due on Thursday of *the following week, at the beginning of* lecture. No late homework will be accepted. Your lowest homework scores will be dropped in the calculation of your overall homework grade.

Quizzes: To encourage you to keep up with reading and understanding the concepts, at the end of some chapters, there will be a short quiz during class. The quiz dates will be announced at least *one* class in advance. Your lowest quiz score will be dropped.

Exams:

- There will be an in-class midterm exam (tentative: 10/29)
- Final exam: TBD. The final exam will be two-hour long, and is comprehensive.

Evaluation:

- Overall scores will be computed as follows:

  25% homework, 10% quizzes, 25% midterm, 40% final

- No letter grades will be given for homework, midterm, or final. Your letter grade for the course will be based on your overall score.

Letter grades you can achieve according to your overall score:

- $\geq 90\%$: At least A
- $\geq 75\%$: At least B
- $\geq 60\%$: At least C
- $\geq 50\%$: At least D

Data Analysis: We will do data analysis using an open-source statistical system called R

`http://cran.r-project.org/`

To install R:

- Windows: Go to `http://cran.r-project.org/bin/windows/base/` and download using the link saying "Download R 3.x.y for Windows"

- Mac: `http://cran.r-project.org/bin/macosx/R-latest.pkg`

- Linux: Go to `http://cran.r-project.org/bin/linux/` and download as needed.

- To program in R, you have the option to work in RStudio, an open-source development environment `http://www.rstudio.com/ide/download/`.

Ethics:

- You **must** write up solutions on your own. You may **never** read or copy solutions of other students.

- You are **encouraged** to discuss with other students about the class materials and homework

Please refer to UD's Guide to Academic Integrity `http://www.udel.edu/studentconduct/ai.html`. In particular, note that copying solutions in whole or in part from other students or **any other source** without acknowledgement constitutes cheating. Any student found cheating risks automatically failing the class and will be referred to the Office of Student Conduct.