

STAT 342: Probability and Mathematical Statistics III

Spring 2019

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Materials I will be using material from several different sources which are listed below:

- Evans, M.J., and Rosenthal, J.S. *Probability and Statistics: The Science of Uncertainty* SECOND EDITION.
- Larsen, R.J., and Marx, M. L. *An Introduction to Mathematical Statistics and Its Applications* , FIFTH EDITION.
- Hogg, R. V., McKean, J.W., and Craig, A.T. *Introduction to Mathematical Statistics*, SIXTH EDITION.

You will also need a spiral bound folder to organize handouts and lecture slides. A scientific calculator is also required.

Description This is the third quarter in a three course sequence on mathematical statistics. This quarter, we will cover hypothesis testing and inference. We will discuss inference based on the MLE (likelihood inference), Bayesian inference, optimal inference and also non-parametric approaches for small samples. Time permitting, I will also cover likelihood inference in simple regression models.

Homework Homework assignments will generally be due at the BEGINNING of class on Friday. There will be a total of 8 homework sets assigned. It is best if you attempt to solve homework problems independently before you ask for help. Homework assignments may involve reading papers and some programming in R. Your homework grade will account for 20% of your course grade. NO HOMEWORK WILL BE ACCEPTED OUTSIDE OF CLASS UNLESS PRIOR ARRANGEMENTS HAVE BEEN MADE WITH THE INSTRUCTOR.

Course structure Generally, there will be no clear separation of lecture and section. All four classes during the week will typically involve some “lecturing” and some problem solving. Attendance and participation in all sessions is expected. There will be a short 10 minute snack break in between the Friday sessions and we will take turns bringing in snacks. I will post a snack schedule for the quarter.

Exams and Grading There will be a midterm and a final. The midterm will be taken in class on Fri Apr 27. The final exam will focus on material covered after the midterm and will be at the officially scheduled UW time: Wednesday June 12, 2:30-4:20 p.m. A breakdown of the components of your course grade is given below:

Homework	30%
Midterm	35%
Final	35%

Policies Midterms can be made up only in the event of a serious emergency (and the instructor has been notified in advance). Students are not allowed to miss the final.

Academic Honesty I expect students will attempt homework before asking questions or discussing answers with each other. You are allowed to post questions on the discussion board or meet with the instructor and TA.

Academic accommodations To request accommodation due to a disability, please contact Disability Resource Services (D.R.S): uwdrs, 448 Schmitz, 206-543-8924 (V/TTY).