STAT453/STAT553, Spring 2023

Lecturer: James Degnan
Office: SMLC 342
Office hours: Currently, Monday 9-11am or by appointment (including by zoom). Office hours are subject to change.
E-mail: jamdeg@unm.edu

Please include STAT453 or STAT553 in the subject line of your email to make it more likely to be noticed quickly.

Brief Description: Statistical inference is a continuation of Probability (Math441/STAT461/STAT553). We will be using the same book, starting in chapter 5. This course is essential for graduate students in statistics preparing for the qualifying exam taken after the first year of courses.


Assessment

Assessment will be based on homework and tests taken remotely. Each homework will be 5-20 points, depending on the length of the homework, with roughly 5–6 homeworks, and two tests during the semester, plus a final exam during finals week. The final exam will be scheduled according the UNM schedule for final exams and is based on this being a TR 11:00 class. Times and due dates for tests and homeworks will be discussed in class.

Please do not schedule travel that conflicts with the final exam time for the class! Times for tests will be announced in class and by email. Some homework problems might be chosen at random to grade completely, while the rest might be skimmed for completeness. In-class tests will be closed book, with no notes or calculators.

Homework

Homework can be submitted by email to jamdeg@unm.edu as an attachment. Please put STAT453 or STAT553 and the homework number in the subject line of the email. Late homework will penalized 10% per day.

Learning Outcomes

- Know and apply properties of the normal distribution and other named distributions
- Be familiar with order statistics, types of convergence
- Be able to estimate parameters using maximum likelihood and method of moments
- Be able to evaluate estimators and justify why one estimator is better than another
- Be able to perform hypothesis tests and specify optimal hypothesis tests
- Be able to find confidence intervals when data come from non-normal distributions
- Be able to perform simulations to illustrate some ideas from class
COVID-19 and Support

COVID-19 Health and Awareness. UNM is a mask friendly, but not a mask required, community. To be registered or employed at UNM, Students, faculty, and staff must all meet UNM’s Administrative Mandate on Required COVID-19 vaccination. If you are experiencing COVID-19 symptoms, please do not come to class. If you have a positive COVID-19 test, please stay home for five days and isolate yourself from others, per the Centers for Disease Control (CDC) guidelines. If you do need to stay home, please communicate with me at [ ]; I can work with you to provide alternatives for course participation and completion. UNM faculty and staff know that these are challenging times. Please let me, an advisor, or another UNM staff member know that you need support so that we can connect you to the right resources. Please be aware that UNM will publish information on websites and email about any changes to our public health status and community response.

Support:

Student Health and Counseling (SHAC) at (505) 277-3136. If you are having active respiratory symptoms (e.g., fever, cough, sore throat, etc.) AND need testing for COVID-19; OR If you recently tested positive and may need oral treatment, call SHAC.

LoboRESPECT Advocacy Center (505) 277-2911 can offer help with contacting faculty and managing challenges that impact your UNM experience.

Accommodations: UNM is committed to providing equitable access to learning opportunities for students with documented disabilities. As your instructor, it is my objective to facilitate an inclusive classroom setting, in which students have full access and opportunity to participate. To engage in a confidential conversation about the process for requesting reasonable accommodations for this class and/or program, please contact Accessibility Resource Center atarcsvs@unm.edu or by phone at 505-277-3506.

Support: Contact me at jamdeg@unm.edu or in office hours and contact Accessibility Resource Center (https://arc.unm.edu/) at arcsrvs@unm.edu (505) 277-3506.

This is a three credit-hour course delivered in an entirely online modality over 8 weeks during the Fall 2022 semester. Please plan for a minimum of 18 hours per week to learn course materials and complete assignments.

Support: Center for Academic Program Support (CAPS). Many students have found that time management workshops can help them meet their goals (consult (CAPS) website under “services”).

Title IX:

To meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered “responsible employees.” 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 Compliance, Ethics and Equal Opportunity (ceeo.unm.edu). For more information on the campus policy regarding sexual misconduct and reporting, see:https://policy.unm.edu/university-policies/2000/2740.html.