Math 5090: Statistical Inference II  
University of Utah – Spring 2019

Course Section: Math 5090-002  
Meetings: Tuesday, Thursday, 2:00PM - 3:20PM, JTB 120

Instructor: Tom Alberts  
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Office: LCB 114  
Office Hours: 1:00 - 2:00 PM Tuesday or Thursday, or by appointment  
Homepage: Online via Canvas. Official announcements and homework assignments will be posted there.

Textbooks

- *Introduction to Probability and Mathematical Statistics.*  
  2nd edition, by Bain and Engelhardt  
  *Available through the campus bookstore or Amazon*

Purpose of Course

This course is about estimation theory. We will cover confidence intervals (Chapter 11), hypothesis testing, uniformly most powerful tests, generalized likelihood ratio tests (Chapter 12), contingency tables (Chapter 13), some nonparametric methods (Chapter 14), and perhaps some basics of linear regression (Chapter 15 - time permitting).

Prerequisites

This course assumes a solid knowledge of Calculus (at least Calc I, II, and III), linear algebra (Math 2270), and probability theory (Math 5010). If you’re not comfortable with all of those you will probably struggle in this course. You must also have a passing grade in Math 5080 - Statistical Inference I.

Homework

Homework will be assigned but not graded. Most solutions can be found already on the internet. I will try to post solutions every week.
**Quizzes**

Every week, typically on Thursdays, we will have a short 15 minute quiz. These will cover the material from the previous week and be very similar to the assigned homework problems. In the final grade I will drop the two lowest scores of the semester’s quizzes. Because of this no make up quizzes are allowed.

**Grading**

Quizzes: 30%
Midterms: 2 @ 20% each
Final Exam: 30%

**Important Dates**

First class: Tuesday, January 8th
Midterm 1: Thursday, February 14th (tentative)
Fall Break: March 10th-17th
Midterm 2: Thursday, March 28th (tentative)
Last class: Tuesday, April 23rd
Final exam: Thursday, April 25th, 1-3PM

**ADA Statement**

The University of Utah is fully committed to policies of nondiscrimination and equal opportunity. The Americans with Disabilities Act requires that reasonable accommodations be provided for students with physical, cognitive, systemic learning, and psychiatric disabilities, and the University seeks to provide equal access to its programs, services, and activities for people with disabilities. Reasonable prior notice is necessary to arrange such accommodations, and students are responsible for obtaining the accommodations and notifying the instructor through official channels early in the semester.