Syllabus of STAT210A
(Theoretical Statistics)

Instructor: Song Mei (songmei@berkeley.edu)
Lectures: T/Th 09:30 - 10:59. Location: Evans 60.
Instructor office hours: Will announce on course homepage.
GSI: Taejoo Ahn (taejoo_ahn@berkeley.edu)
GSI office hours: Will announce on course homepage.
Zoom link (Lectures, Office hours): https://berkeley.zoom.us/j/94187182748

Important websites

Course website (for general logistics): https://www.stat.berkeley.edu/~songmei/Teaching/STAT210A_Fall2022/index.html
bCourses (for potentially recordings): https://bcourses.berkeley.edu/courses/1516569
Piazza (for questions): piazza.com/berkeley/fall2022/stat210a
Gradescope (for submitting homeworks): https://www.gradescope.com/courses/408557. Entry code: DJJJZJ.

Course introduction

This is a graduate level course on theoretical statistics. Topics include statistical decision theory; point estimation; minimax and admissibility; Bayesian methods; exponential families; hypothesis testing; confidence intervals; small and large sample theory; and M-estimation.

Textbooks

Keener, Theoretical Statistics: Topics for a Core Course, Springer 2010.

Other references

Lehmann and Casella, Theory of Point Estimation, Springer 1998.
Lehmann and Romano, Testing Statistical Hypotheses, Springer 2005.

Prerequisite

All students should have a mature background in calculus, linear algebra, and probability.

Homework/Grading

- Class attendance is required.
- Each student is required to scribe at least 1 lecture.
- There will be 6 homeworks. Late submissions will get a deduction of 15 % per late day. We will

drop your lowest grade.
• Final exam. Date Location TBA.
• Final grade will be Homework × 50 % + final × 40 % + scribe × 10 %.

Code of conduct; attribution of work

The high academic standard at the University of California, Berkeley, is reflected in each degree awarded. Every student is expected to maintain this high standard by ensuring that all academic work reflects unique ideas or properly attributes the ideas to the original sources.

These are some basic expectations of students with regards to academic integrity: Any work submitted should be your own individual thoughts, and should not have been submitted for credit in another course unless you have prior written permission to re-use it in this course from this instructor.

All assignments must use "proper attribution," meaning that you have identified the original source and extent or words or ideas that you reproduce or use in your assignment. This includes drafts and homework assignments! If you are unclear about expectations, ask your instructor.

Do not collaborate or work with other students on assignments or projects unless the instructor gives you permission or instruction to do so.

Disability accommodations

If you need an accommodation for a disability, if you have information your wish to share with the instructor about a medical emergency, or if you need special arrangements if the building needs to be evacuated, please inform the instructor as soon as possible.

If you are not currently listed with DSP (the Disabled Students' Program) and believe you might benefit from their support, please apply online at https://dsp.berkeley.edu/.