## Limit Theory STA 7334 Fall 2021

Instructor: Kshitij Khare

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Lectures: The class meet 12:50 pm - 1:40 pm (Period 6) on Monday, Wednesday and Friday in FLO 230.

Office Hours: I will hold two office hours every week (Monday, Wednesday 9:30 am - 10:30 am, FLO 208).

<u>Text</u>: I will post typed lecture notes for most of the topics covered in class. Here are the topics that I plan to cover this semester.

- 1. Review of CLT and extensions to m-dependent random variables.
- 2. Empirical distribution functions, moments, quantiles and order statistics
- 3. U-statistics
- 4. Asymptotic properties of the MLE
- 5. Asymptotic properties of likelihood ratio tests
- 6. Jackknife and Bootstrap
- 7. High-dimensional asymptotics for linear regression

<u>Homework</u>: There will be four homework assignments for the semester. Homework is worth 20% of the final grade. No late homework will be accepted.

<u>Exams</u>: Two exams, a midterm (covering topics in the first half of the semester), and a final (covering topics in the second half of the semester) will each count for 40% of the final grade. The schedule will be announced by the second week of class.

<u>Grading</u>: The usual 10 point scale (90% for an A, 80% for a B, . . . ) is tentatively adopted, but may be adjusted later. The final grading scale will be announced after the midterm.

<u>Reasonable Accommodations</u>: To request classroom accommodation, please be certain that you have made all necessary arrangements with the Dean of Students Office, and obtain from them documentation to submit to the instructor at the time of your request. A request must be made to the instructor at least one week in advance of the date for which the accommodation is requested. This course information and policies sheet can be made available in alternative form upon request.

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