Statistics 971

Syllabus, Spring 2020

Classes: Mon/Wed 1:30–2:50 p.m., in JMHH F92

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Office hours: Wed 3:00–4:00 p.m., or by appointment

Course Overview

This course is the second semester of the first year PhD level mathematical statistics sequence. The course focuses on large sample theory. **It is NOT about linear models**. Course prerequisite is STAT 970.

Textbook

- *Asymptotic Statistics*, by A.W. van der Vaart. Cambridge University Press, 1998.

Course Requirements and Grading Policy

There will be four problem sets, one midterm and one final. Evaluation will be based on homework (30%), midterm (30%) and final (40%).

The **midterm** will be an **in-class** exam taking place on **Wednesday, March 4**. You may bring your textbook and notes to the midterm. Electronic devices are not allowed.

The **final** will be a **take-home** exam. Exam time and logistic details will be announced later.

Tentative Content List

- Stochastic convergence
- Delta method
- M- and Z- estimators
- Contiguity and local asymptotic normality
- Efficiency of estimators
- U-statistics
- Efficiency of tests
- Stochastic convergence in metric spaces
- Empirical processes