Econ 7720
Spring 2024

Tentative Outline:

0. Review: [G: 1-4, 7-8 and 18; M: introduction]

I. Introduction to Prediction and Estimation:

- A Overview of the course
- B. Best Predictors Under Squared Loss (chapter 1, 5 (esp. 5.4-5.5), M: 1.1-1.2 and C: 1A)
  - i. Loss Functions
  - ii. Squared Loss
  - iii. Prediction Error
- C. Best Linear Predictor (shape restrictions)
  - i. Best Predictor
  - ii. BLP
  - iii. BLP vs. CEF (5.4-5.5)
  - iv. uncorrelated v independence (chapter 6)
- D. Introduction to Estimators [9-11]
  - i. Analogy Principle
  - ii. Sample Mean in Random Sampling
  - iii. Small Sample Properties
  - iv. Asymptotic Properties
    1. Confidence intervals (if time) [this is done in part II]
    2. Hypothesis testing (if time) [this is done in part II]
- E. Introduction to Nonparametric Estimators [Manski, Chapter 1]
  - i. Uniform Kernel Estimator
  - ii. Asymptotic
  - iii. Benefits and Limitations: Why impose functional form?