14.381 Statistical Methods in Economics

The primary objective of this course is to provide an introduction to mathematical statistics necessary for the subsequent study of econometrics and economic theory. No prior preparation in probability and statistics is required, but familiarity with linear algebra and multivariate calculus is assumed. Students familiar with statistical theory and/or econometric theory are strongly encouraged to waive the course requirement by taking the waiver exam.

The class will meet Tuesday & Thursday, 9:00-10:30, in E51-151. In addition, weekly sections will be conducted Friday, 9:00-10:30, in E51-151. My office hours are Tuesday, 10:30-12:00, in E52-262F.

Grading will be based on performance on the problem sets (20%), the mid-term exam (30%), and the final exam (50%). The mid-term exam will be held in class on Thursday, October 28, and the final exam will be held in the final exam week. Any time conflicts should be discussed with the instructor well before the exam date. It is essential to attempt all problems in order to understand the material covered in this course.

The required text for the class is:


Other useful references are:

TENTATIVE COURSE OUTLINE:

1. Probability spaces and random variables
   Casella and Berger, Chapter 1.

2. Transformations and expectations
   Casella and Berger, Chapter 2.

3. Univariate distributions
   Casella and Berger, Chapter 3.

4. Multiple random variables
   Casella and Berger, Chapter 4.

5. Random sampling
   Casella and Berger, Chapter 5.

6. Point estimation
   Casella and Berger, Chapter 7.

7. Hypothesis testing
   Casella and Berger, Chapter 8.

8. Interval estimation
   Casella and Berger, Chapter 9.

9. Large sample theory
   Casella and Berger, Chapter 10.