14.384 Time Series Analysis

This course provides an introduction to univariate and multivariate time series analysis. It starts by introducing basic concepts and models and progresses to more complicated models. The course intends to provide tools for empirical work with time series data and to give an introduction to the theoretical foundations of time series analysis.

The class will meet Tuesday & Thursday, 2:30-4:00, in E51-057. In addition, weekly sections will be conducted Wednesday, 4:00-5:30, in E51-390. My office hours are Tuesday, 10:30-12:00, in E52-262F.

Grading will be based on performance on the problem sets (30%) and the final exam (70%). 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.

The required text for the class is:


Other useful references are:


More advanced treatments of some of the topics covered can be found in:

TENTATIVE COURSE OUTLINE:

1. Univariate stationary time series: Concepts, models and representations
   Hamilton, Chapters 1-4 & 6.

2. Univariate stationary time series: Estimation and inference
   Hamilton, Chapters 5 & 7.

3. Multivariate stationary time series: Concepts, VARs and GMM
   Hamilton, Chapters 10, 11 & 14.

4. Univariate nonstationary time series: Testing for unit roots
   Hamilton, Chapter 17.

5. Multivariate nonstationary time series: Spurious regressions and cointegration
   Hamilton, Chapters 18-20.