Objectives: At the completion of this course, a student should be aware of the key empirical questions in finance; know the econometric techniques suitable for analyzing financial data; have practical experience applying these techniques to financial data and reporting results.

Organization: The class will consist of seven topics. For each topic, we will cover material from the text with an emphasis on one or more applications. By taking advantage of multimedia equipment, the class meetings will include demonstrations of software commands required to use all the techniques covered in class.

Grading: The class includes homework assignments (30%), a midterm (30%) and final exam (40%). The homework assignments will often be based on case studies and students will sometimes work in groups.

Topics

Topic 1: Statistical Characteristics of Financial Data, Chapter 1.
Application: Comparing the risk of Microsoft, IBM, GM, and ATT.

Topic 2: Linear Regression and the CAPM model.
Application: Finding market "betas" and evaluating portfolio risk.

Topic 3: Tests of Market Efficiency
Application a: Is the Cattle Futures market efficient?
Application b: A day at the dog track: Is the greyhound betting market efficient?
Application c: Covered Interest Parity

Topic 4: Volatility

Topic 5: Autoregressive Conditional Heteroscedasticity, Cuthberson Chapter 20
Application: Predicting volatility of the Dow Jones Industrials.

Topic 6: Other ARCH Models, Cuthberson Chapter 20
Application a: Accounting for fat tails in ARCH models t-ARCH.
Application b: When risk affects the return: the ARCH in means model.
Application c: Common volatility across assets: the Factor ARCH model.

Topic 7: Computing Value at Risk
Application a: Computing the probability of a stock market crash.
Application b: Capital requirements in foreign exchange markets.