COURSE OUTLINE

This is a doctoral course for Ph.D. students in finance (and other related areas). This course discusses several concepts of asset pricing, such as valuation by arbitrage, static and intertemporal portfolio choice problems, continuous-time finance, asset pricing under asymmetric information, and recent research topics. Regular attendance, thorough preparation, and class participation are expected of all students enrolled in the course. Expect to spend at least 30 hours per week for this course.

Prerequisites

Although not an absolute necessity, some background in microeconomic theory, calculus, linear algebra, probability theory, statistics, and econometrics is highly desirable.

Course Requirement and Grading

There will be a final exam, homework assignments (problem sets), and two in-class presentations. Grading will be at the instructor’s discretion. It will be roughly based 1/2 on the final exam, 1/4 on in-class presentations, and 1/4 on homework and class participation.

In-class presentations: Each student will make lecture presentations to the class twice in October and November. Each presentation should focus on explaining an asset pricing paper published in a top finance scholarly journal in the past 5 years (say from 2008 onwards). You will pick the papers that interest you most. The papers do not need to be purely theoretical, but your in-class presentation should explain the papers’ theoretical motivations carefully. For each paper, you should prepare a brief teaching note and share it with the class. The final exam will cover materials from students’ presentations and teaching notes.

- The instructor will discuss the details of the in-class presentation in announce the details of the in-class presentations on September 17 or 24.
Students must pick two papers (with consultation of the instructor) as early as they can, by September 30 at the latest.

Course Materials:
Course materials will include academic papers, chapters from several different textbooks, and my lecture notes. Each lecture will follow the lecture notes. Course materials, announcements, etc. will be posted/shared online.

I recommend the following two books to complement the lectures.


In addition to these recommended books, several good Ph.D. level textbooks are available, including:
Cochrane, John (2005), Asset Pricing (revised ed.), Princeton Univ. Press. (especially Chapters 1-6, 9, 17-18, and 20.)

In addition to these textbooks and academic articles (posted online), the following books provide very useful surveys of a few important topics of asset pricing. Most of these books are in my office. You can check them out from my office.

Conventional Asset Pricing
Continuous Time Finance


Shimko, David C. (1992), *Finance in Continuous Time: A Primer*, Kolb

Asymmetric Information, Market Microstructure, Liquidity, etc.


Portfolio Risk and Credit Risk


Academic Integrity:

It is the responsibility of every student at the University of South Carolina Columbia to adhere steadfastly to truthfulness and to avoid dishonesty, fraud, or deceit of any type in connection with any academic program. Any student who violates this Honor Code or who knowingly assists another to violate this Honor Code shall be subject to discipline. For more information about the academic integrity issues, go to the following website: http://www.sc.edu/academicintegrity/
Course Outline:

The course outline may change. The course outline and class schedule will be updated online.

1. **Introduction**
   (a) No Arbitrage: The Fundamental Principle of Asset Pricing
   (b) Efficient Markets Today

2. **Static Asset Pricing under Symmetric Information**
   (a) Risk Aversion and Portfolio Choice
   (b) Mean-Variance Analysis and the CAPM
   (c) The Arbitrage Pricing Theory (APT)
   (d) Fama-French Factor Model and the Conditional CAPM
   (e) Recent Discussion of Asset Pricing Tests
   (f) Appendix: Equilibrium, Efficiency, and Aggregation

3. **Continuous Time Finance: A Primer**
   (a) Continuous Stochastic Processes (Ito Processes) and Valuation in Continuous Time
   (b) Valuing Perpetual Assets in Continuous Time
   (c) Basic Option Pricing Models

4. **Dynamic Securities Markets: Discrete-Time Models and Continuous-Time Models**
   (a) Dynamic Securities Markets in Discrete Time
   (b) The Martingale Approach in Continuous Time
   (c) Dynamic Term Structure and Bond Pricing Models
   (d) Pricing Defaultable Corporate Debts

5. **Asset Pricing under Asymmetric Information**
   (a) Competitive Rational Expectations Models
   (b) Dynamic REE Models of Trading Volume, etc.
   (c) Strategic Trader Models
   (d) Models of Trading Volume, Technical Analysis, Herding, Bubbles, etc.

6. **Topics Chosen from:**
   - Recent Developments in Consumption-Based Models
   - Recent Developments in Production/Investment-based Models
   - Return Predictability, Return Decomposition
   - Recent Discussion of Asset Pricing Tests
   - etc.