UNIVERSITY of HOUSTON

C. T. BAUER COLLEGE of BUSINESS
Department of Finance

FINA 7397

Financial Theory I

Syllabus

Fall 2017

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Office Hours: Monday 1:30—3:00 pm
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I. Course Objectives and Overview

This is the introductory course in financial economics and asset pricing for first year Ph.D. students or students in the Masters of Science in Finance—Quantitative track. The quantitative techniques required are not challenging per se. However, the challenge comes from the fact that competence in modern financial theory requires mastery of the analytic concepts, intuition, and knowledge of financial institutions. However, the rewards justify the effort.

Finance examines the investment and financing decisions of individuals and corporations. One of the most important interesting questions in business and finance is: "What is the appropriate or "correct" value of an asset?" We will develop theories to address this question. Only a limited amount of time will be spent on the ***empirical*** validity of these models - you will learn about empirical tests in future classes. However, you will see how certain assumptions on the structure of the economy yield testable implications and we will see how some of the more restrictive assumptions are not validated in the data.

We will attempt to build the foundations of financial theory in a logical fashion. The following corresponds roughly to the order of topics:

- Decision-making under uncertainty
- Attitudes toward risk
- Valuation of assets under various assumptions on the functioning of financial markets and investor behavior
- Efficiency of risk sharing through financial markets
- Variation in Expected Stock Returns
- Dynamic asset pricing
- Empirical tests of asset pricing models (brief)

II. Course Materials

There is no specific textbook assigned for this class because the material is sufficiently advanced and evolving that no single text-book can cover the material at the right breadth and depth. All the instruction will therefore be through lecture notes and classroom exposition that will be

complete, i.e., will give a thorough coverage of the material. The lecture slides will be placed on the Blackboard (BB) portal prior to the class. I expect you to at least look through the notes and do the reading prior to the class.

However, the classroom materials will be related to the following sources:

John Cochrane, "Asset Pricing" (2001 edition or the revised edition, 2005). Mostly part I (chapters 1-9) of the 2005 edition are relevant.

Darrell Duffie, "Dynamic Asset Pricing Theory", 3rd edition. This book contains a compact, rigorous, high-level treatment of the field. Mostly the first four chapters (discrete time) are relevant.

Jonathan Ingersoll, "Theory of Financial Decisionmaking" (1987). This book has solutions to many of the dynamic portfolio optimization problems covered in the class.

Another classic is the book by ***Huang and Litzenberger*** (HL), but this is out of print.

(Note: The purchase of Cochrane's 2005 book or Duffie's book are recommended as resources that you may use over time but are ***not*** required for this course. My class notes do not follow any particular book and should be self-sufficient.)

In addition, I will strongly recommend reading some "classic" papers or surveys on asset pricing because they give additional content and allow you to start getting familiar with reading finance research papers. These journal papers listed below in the course schedules and will be placed on the BB portal.

III. Course Schedule

The following is the sequence of topics and the file name of the corresponding lecture notes:

Topic	Readings (recommended)

Basic theory of decision-making under uncertainty by consumer-investors	Fishburn, P. C. 1969. A general theory of subjective probabilities and expected utilities.
	Annals of Mathematical Statistics 40: 14191429. Pratt, J. W., 1964. Risk aversion in the small and in the large. *Econometrica* 32: 122–136. Hanoch, G., H. Levy, 1969. The efficiency analysis of choices involving risk. Review of Economic Studies 36: 335-346.
State prices, arbitrage, complete markets, representative agent	Duffie, Chapter 1; Cochrane, Chapter 3.
The CAPM, APT and factor pricing models	Cochrane, Ch. 5, 6, 9; Ingersoll, Chapters 4, 7. Fama, E. and J. Macbeth, 1973. Risk, Return, and Equilibrium: Empirical Tests. Journal of Political Economy, 81, 607–636. Fama, E., K. French, 1992. The Cross-Section of Expected Stock Returns, Journal of Finance, 47, 427-465. Chen, N., R. Roll, and S. Ross, 1986. Economic Forces and the Stock Market, Journal of Business 59, 383-403.
Finite horizon multi-period models	Duffie, Chapter 2; Cochrane, Chapter 1; Ingersoll, Chapter 11. Hakansson, N., 1970. Optimal investment and consumption strategies under risk for a class of utility functions. Econometrica 38: 587-607.
Infinite horizon models	Duffie, Chapters 3-4.
Empirical tests of general equilibrium models	Cochrane, Chapter 20, 21.1. Mehra, R., E. Prescott, 1985. The equity premium: A puzzle. Journal of Monetary Economics 15: 145-161. Campbell, J., 2000. Asset pricing at the millennium. Journal of Finance 1515-1567.

IV. Assignments and Grading

Grading will be based on:

Homeworks (60%)

In-class Midterm exam (20%) (Scheduled for October 4, 2017)

In-Class Final exam (20%)

The midterm and final exam will be closed-book but you can bring 1 sheet of paper “notes.”