**Course Description:** This course provides an introduction to the theory of financial economics. It is intended for doctoral students at the Sloan School of Management and the Economics Department. This course covers the following topics:

- Choice under uncertainty
- Contingent claim valuation
- Mean variance analysis and the Capital Asset Pricing Model
- The Arbitrage Pricing Theory
- Dynamic asset valuation
- Financial markets with imperfections
- Financial innovations
- An introduction to continuous-time finance

**Readings:** The readings of this course are mostly drawn from the following two text books and a reading packet:


The reading packet is available from the Graphics Arts (located in the basement of E52).

**Grade:** The grade of the course will be based on the midterm exam (35%), final exam (50%) and homework and class participation (15%). Assigned homework should be handed in at the beginning of class on the listed due date and no late homework will be accepted.

**Other Information:**

Lectures: MW 14:30-16:00, E51-151
Office Hours: Th 4-5:30, E52-435
Phone: 253-2632
TA: Arvind Krishnamurthy, E52-458 (253-3919) (email: akrish@mit.edu)
Secretary: Madeleine Um, E52-460 (253-9747)
COURSE OUTLINE

1  Choice Under Uncertainty
   - Expected utility: A review
   - Risk aversion
   - Stochastic dominance
   - Portfolio separation theorems

READING:
- Huang and Litzenberger, Chapter 1, 2
- Ingersoll, Chapter 5, 6

2  Discrete Time Asset Valuation: Two-Period
   - Arrow-Debreu economy and state-contingent claims
   - Arbitrage
   - Risk sharing and aggregation
   - Options: An example of arbitrage pricing
   - Modigliani-Miller Theorems

READING:
- Huang and Litzenberger, Chapter 5, 6
3 Mean-Variance Analysis and the CAPM

- Mean-variance analysis
- The Capital Asset Pricing Model

READING:
- Huang and Litzenberger, Chapter 3, 4
- Ingersoll, Chapter 4

4 Arbitrage Pricing Theory

- Linear factor models
- Asymptotic arbitrage

READING:
- Huang and Litzenberger, Chapter 4
- Ingersoll, Chapter 7

5 Discrete Time Asset Valuation: Multi-Period

- Dynamic Portfolio Choice
- Equilibrium Pricing
- Valuation by Arbitrage

READING:
- Huang and Litzenberger, Chapter 8
- Ingersoll, Chapter 10, 11
6 Financial Markets With Imperfections

6.1 Market Incompleteness
- Consumption and Portfolio Choice
- Equilibrium Pricing

READING:

6.2 Heterogeneous Information
- Competitive Rational Expectations Equilibrium
- Non-competitive Rational Expectations Equilibrium

READING:
- Huang and Litzenberger, Chapter 9

6.3 Frictions
- Leverage Constraints
- Trading Costs

READING:

4
7 Financial Innovations

READING:

8 An Introduction to Continuous Time Finance

- Stochastic calculus: A non-technical introduction
- Portfolio/consumption choice
- Intertemporal CAPM
- Intertemporal CCAPM
- Black-Scholes Option Pricing
- Term Structure of Interest Rates

READING:
- Merton (1990), Continuous Time Finance, Blackwell.