

Futures and Options (C15.0043)

FALL 2009

Professor Menachem Brenner

Course Description: This course consists of two parts. The first part of the course deals with the structure of futures markets, pricing of futures contracts and hedging with such contracts. The second part of the course deals with options markets; strategies, pricing and position analysis. The course will consist of lectures and discussions.

Prerequisites: All core courses. Some basic knowledge of futures and options is assumed.

Exams and Grading: There will be two multiple-choice exams, a midterm and a final. The final grade will be based on the following weights; 30% midterm, 50% final, 20% home work. Class participation may improve your grade. The grade distribution is: A (25%-30%), B (50%-60%); C (10%-15%); D,F (remainder). If one gets a higher grade on the final exam, then the midterm will have a weight of 20% and the final will get 60%. There are no make-up exams for the mid-term.

Problem Sets: Provided on Blackboard. Some of the problem sets will be assigned as HW to be turned in and will count towards your grade. Solutions to the problem sets will be provided after you had a chance to solve them.

Required Material: You are responsible for the material covered in class, handed out in class and sent to you by e-mail. The problem sets and **all handouts** are part of the class material.

Required book: John Hull (H) Fundamentals of Futures and Options Markets, Prentice Hall, 2008

Market Tracking: You are expected to follow the markets on a daily basis and be able to answer basic questions regarding 'fair value' for futures contracts and implied volatility from options contracts. Specifically, follow the SPX futures, NDX futures, SPY Options, QQQQ Options.

You are also expected to read the daily financial press (WSJ, FT). Pay attention to futures and options columns.

Class Hours: M-W; 2:00-3:15.

Class Attendance: Students are expected to attend all classes and **be on time. No late admittance.**

Laptop usage is not allowed in class. Cellphones must be silenced.

Honor Code: You are responsible for maintaining Stern's honor code.

Office Hours: Tuesday; 2:00-4:00 and Monday;4:00-6:00. Room 9-55 MEC.

Homepage: www.stern.nyu.edu/~mbrenner

Course Outline

Required Textbook: Hull (H): Fundamentals of Futures and Options Markets. Prentice Hall, 2008.

I. Futures Markets

1. Forward and Futures: Overview (H: pp. 1 – 5)
2. The Structure of the Futures Markets (H: Ch. 2)
 - a) Trading; Clearing and Delivery
 - b) Marking to Market and Margins
3. The Cost of Carry Model
 - a) Arbitrage Pricing (H: pp. 97-105)
 - b) Stock Index Arbitrage and Currency Futures (H: pp. 108-113)
4. Hedging with Futures (H: pp. 45-58)

II. Options Markets

1. Options Strategies and Markets (H: Chs. 8, 10)
2. Options Valuation
 - a) Arbitrage Conditions (H: pp. 209-217)
 - b) Put-Call Parity (H: pp.217-220)
 - c) The Binomial Model (H: pp. 247-255)
 - d) The Black-Scholes-Merton Model (H: Ch. 12)
 - e) The Greek Letters (H: pp. 325-338)
3. Implied Volatility (H: Ch.17)
4. Value at Risk (H: pp. 395-397)