FNCE 206/717: Financial Derivatives
Fall 2011
Syllabus

Instructor

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Office hours are Wednesday, 1.30 – 3.00 pm. Please make an appointment if you like to meet with me outside of office hours. Teaching Assistants and TA office hours, to be held in the TA cubicles in the Finance Department, will be posted on the course webCafe page.

Course Description

Financial derivatives attract many bright market participants, including hedgers trying to transfer risk, speculators betting on the future movements of prices, and arbitrageurs aligning prices in derivatives and the underlying cash markets. The purpose of this course is to provide students with the necessary skills to value and to employ financial derivatives such as futures, options, and related financial instruments. In order to provide a useful treatment of these topics in an environment that is changing rather rapidly, it is necessary to stress the fundamentals and to explore the topics at a technical level.

The topics that will be covered include the valuation of forwards and futures on stock indices, on commodities and Treasury instruments, representing about one third of the class. Another third is devoted to the fundamentals of options, including the valuation of stock options, how to control the risk of derivative positions, and asset allocation strategies of which portfolio insurance is an example. The final third will be devoted to options on futures and interest rates, as well as credit derivatives such as the credit default swap. I will provide examples and applications throughout the course, and we will also discuss current issues in derivative markets.

Lectures

The course is in lecture format. We meet 25 times during this semester, of which 24 are lectures and discussions, and 1 in-class midterm exam. Class participation is encouraged and can affect your grade at the margin.

FNCE 206 001 Tue/Thu 09:00 - 10:30 pm, JMHH 270
FNCE 717 001 Tue/Thu 10:30 - 12:00 pm, JMHH 270
FNCE 717 002 Tue/Thu 12:00 - 1:30 pm, JMHH 270

Prerequisites

Students must have taken introductory finance and statistics.
FNCE 206: FNCE 100-101 and STAT 101
FNCE 717: FNCE 601 and STAT 621

Course Materials

1. All lecture notes will be distributed electronically via webCafe. I will make sure to post them prior to class. There is no bulk pack. Please see the course schedule below for an outline of the topics that I will cover.

2. There is a textbook for the course, available at the bookstore:

Options, Futures, and Other Derivatives, 8th Edition, by John Hull, Prentice Hall

The book's way of presenting the material differs somewhat from the way it is done in the lectures notes. It is a great manual and will be helpful in mastering the material, as well as a general reference on the subject. Students are not responsible directly for the material in this book that is not covered in class.

3. Announcements, problem sets, solutions, past exams, will also be made available via the course webCafe page.

4. If you find it helpful to see the material presented in different ways, I suggest the following textbooks:

Derivative Markets, by McDonald, 2nd Edition, Pearson/Prentice Hall

Derivatives: Principles and Practice, by Sundaram and Das, 1st Edition, Mc Graw Hill Irwin

All textbooks are on reserve at the library, I also have copies in my office.

Exams and Grades

There are two mandatory exams. The midterm exam is on October 27 in class, and you must come to the section you are registered for. The final exam takes place on Tuesday December 20, according to the University Registrar's office. Each exam will count for 30% of your final grade. Another 30% of your grade will be determined by a final project. There are no verbal appeals of grades. Please provide a written statement to us as to why there is a problem. All re-grade requests must be submitted within one week after handing back the exams.

The exams will be closed-book. For the midterm exam, you may bring a letter-size piece of paper of notes. For the final exam, you may bring two such pieces of paper. Although the final exam concentrates on material taught since the midterm exam, material presented earlier may also appear. You may bring a calculator to the exam, but not a computer. University exam rules apply. Based on previous years' grade distributions, the average final grade is a B+.

Problem Sets

There will be 6 problem sets. I will assign them Thursdays after class, and they are due one week later at the beginning of class, marked (*) in the course schedule. All problem sets (and the final project) can be solved in groups of up to five students, and to be handed in as one write-up per group. The purpose of the problem sets is to increase your understanding of the material, provide feedback, and help you prepare for the exams.

Solutions to each problem set will be made available after your answers have been turned in. Your graded answers will be returned to a file cabinet in the Finance Department. The problem sets will be graded by giving a "check-plus," "check," "check-minus," or "no credit." The 5 best problem sets that were submitted will count towards the remaining 10% of your final grade.

Course Schedule (tentative as of August 19, 2011)

Class	Date	Topic
1	Sep 8	Introduction to Financial Derivatives / Instruments for Hedging and Speculation on Gold
2	Sep 13	Forward Contracts I / Synthetic Position / Cash and Carry / Hedging Examples
3	Sep 15	Forward Contracts II / Forwards on Stocks / Dividends / Transaction Costs
4	Sep 20	Future Contracts I / Index Futures / Marking to Market / Margins
5	Sep 22 *	Future Contracts II / Pricing Futures / Hedging with Basis Risk
6	Sep 27	Commodity Forwards and Futures / Storage Cost / Convenience Yield
7	Sep 29	Interest Rate Forwards and Futures / FRA / Eurodollar / Treasury Bond Future
8	Oct 4	Interest Rate Swaps / Pricing and Hedging Examples
9	Oct 6 *	Current Issues
	Oct 11	Fall Break
10	Oct 13	Mechanics of Options Markets
11	Oct 18	Properties of Stock Options and Put-Call Parity
12	Oct 20 *	Trading Strategies Involving Options
13	Oct 25	Review Session
14	Oct 27	Midterm Exam
15	Nov 1	Options Pricing I / Binomial Trees
16	Nov 3 *	Option Pricing II / Black-Scholes-Merton Model
17	Nov 8	Controlling Risk of Derivative Positions / Greek Letters
18	Nov 10	A detailed look at the assumptions of Black-Scholes-Merton and Volatility
19	Nov 15	Options on Futures / Using Black's Model
20	Nov 17 *	Options on Interest Rates / Cap, Floor and Swaption / Pricing and Hedging Examples
21	Nov 22	Buffer Lecture
	Nov 24	Thanksgiving
22	Nov 29	Credit Risk in Derivative Transactions, Credit Derivatives I / Introduction to CDS / Regulatory Issues
23	Dec 1 *	Current Issues
24	Dec 6	Credit Derivatives II / CDS on Corporate Risk and Sovereign Risk
25	Dec 8	Review Session / final project due
	Dec 20	Final Exam 6.00pm – 8.00pm, Room TBA