

Tentative Syllabus: Financial Derivatives 206/717
Sections 401, 402, 403
Wharton, University of Pennsylvania

Prof. Philipp Illeditsch

Fall 2009

Instructor

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Office hours: Wednesday, 1.00 – 2.30pm.

Teaching Assistants

There will be several Teaching Assistants for the course. Their contact information and office hours will be posted on webcafe. The TA office hours will take place in the TA cubicles in the Finance Department (2300 SH-DH).

Course description

There has been a dramatic growth in markets for financial derivatives in recent years. Modern managers can use financial derivatives such as futures, options, and swaps to hedge particular kinds of risk or to change the returns on their portfolios in certain ways. The purpose of this course is to provide the student with the necessary skills to value and to employ futures, options, and other related financial instruments. In order to provide a useful treatment of these topics it is necessary to stress fundamentals and to explore topics at a somewhat technical level.

Prerequisites

Introductory Finance and Statistics:
FNCE 206: FNCE 100, FNCE 101, STAT 101-102
FNCE 717: FNCE 601, FNCE 602, STAT 621

Class times and locations

Section 401: Tue/Thu 9.00am-10.30am, SH-DH 211
Section 402: Tue/Thu 10.30am-noon, SH-DH 211
Section 403: Tue/Thu 1.30pm-3.00pm, SH-DH 211

Exceptions:

There will be no class on the following days:
Tuesday, October 20 (Focused Interview Period for MBAs)
Thursday, November 26 (Thanksgiving)

Exams

1st Midterm	Thursday, October 29, 2009	In Class
2nd Midterm	Thursday, December 3, 2009	In Class

Both exams are during class time so there should not be any conflict. If you nevertheless are unable to take the exam, then undergraduates must petition their dean's office for a makeup exam and MBA students must petition the MBA Program Office.

Both exams are closed-book, closed-notes. For each exam you may bring a single letter-size *handwritten* formula sheet. You may write on both sides of this sheet.

Problem Sets

No late assignments will be accepted.

There are six problem sets. These can be tackled in groups of up to five students. Completed assignments will be graded on a scale $\sqrt{-}$, $\sqrt{}$, $\sqrt{+}$. Problem sets are due *at the start of the class you attend*, on the dates shown below. Your group can be composed of students from different sections of the class; however, in this case you must submit the problem set at the beginning of the earliest section that one of your members is enrolled in.

Problem set solutions should be clearly written and should explain your thought-process. If you submit a print-out from a spreadsheet, please make sure to label it carefully. *You must submit a paper copy of your solution. I will not accept electronic copies.*

Problem Set 1	Thursday, September 24
Problem Set 2	Tuesday, October 6
Problem Set 3	Thursday, October 15
Problem Set 4	Tuesday, October 27
Problem Set 5	Thursday, November 12
Problem Set 6	Tuesday, December 1

I will post the grade of each problem set on webcafe. Please make sure you check your grade and report any errors as soon as possible and at the latest within a week of the problem set's due date. I will not accept any inquiries afterwards.

The solution to each problem set will be posted after its due date. I will bring the graded answer to class. Afterwards they will be returned to a file cabinet in the Finance Department in SH-DH. Most of the questions and problem sets will not be discussed in class. My TA's and I can give only limited guidance before the due date. But I encourage you to come the TA's or my office hours if you have trouble understanding the solution.

Final Project

It will be distributed and explained during the final week of class. It is due on Tuesday, December 15 (the first day of the final exam period).

Books

The reference for this class is:

Derivatives Markets (2nd edition), by Robert L McDonald.

Copies of the book and the solution manual are available at the campus bookstore.

As an additional reference, I also recommend

Options, Futures and Other Derivatives (7th edition), by John C Hull.

If students are interested in a more advanced (and more mathematical) text, I recommend *A Course in Derivative Securities: Introduction to Theory and Computation*, by Kerry Back.

Exams will be based only on material covered in class and in the accompanying problem sets.

Lecture notes etc.

This is a paperfree class. I will distribute all readings and lecture notes electronically via webCafe. I will always make sure to post my lecture notes on webCafe *prior* to class. If you wish to take notes directly on these lecture notes, please make sure to print out a set before class. I will *not* distribute paper copies in class. There is no bulkpack for this class.

I will also use webCafe to post the problem sets and the problem set solutions.

Course requirements

Your final grade will be based on your performance on the problem sets, the two exams, and the final project. I will base your overall grade on one of the two weighting schemes below; for each individual student, I will use the weighting scheme that is more favorable for him/her.

	Weighting 1	Weighting 2
Problem sets	10%	10 %
1st Midterm	40%	25 %
2nd Midterm	40%	55 %
Final Project	10%	10 %

Review sessions

There will be a review session before each of the two exams. Time and location TBA.

Classroom behavior

Please bring your name tent card to class, and display it. THIS APPLIES TO UNDERGRADUATES AS WELL AS MBA STUDENTS! (If you do not have a name tent card, make one.) Laptops may be used for note-taking only. Surfing the web is very distracting for students around you. Turn your cell phone off. DO NOT LEAVE THE CLASSROOM TO TAKE A PHONE CALL!

Academic integrity

May I remind you that your work and conduct will be held accountable under the University of Pennsylvania's *Code of Academic Integrity*. Violations of this Code will be met with swift and certain punishment to the full extent of the regulation. You can find a copy of the code at:

www.vpul.upenn.edu/osl/acadint.html

Course outline

- Introduction
 - Financial forwards
 - Financial futures
 - Forward Rate Agreement
 - Commodity forwards/futures
 - Hedging with forwards/futures
 - Swaps
 - Options: basics
 - American options
 - Pricing options I: binomial trees
 - Pricing options II: Black-Scholes-Merton model
 - Option Greeks
 - Additional topics as time permits:
 - limits of the Black-Scholes-Merton model
 - extensions of the Black-Scholes-Merton model
 - credit instruments (CDOs, CDSs, etc.)
 - more derivative pricing
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