

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

Prof. Philipp Illeditsch

Spring 2009

Instructor

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Teaching Assistants

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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.

Class times and locations

Section 401: 9.00am-10.30am, JMHH 345
Section 402: 10.30am-noon, JMHH 345
Section 403: 1.30pm-3.00pm, JMHH 350

Exceptions:

There will be no class on the following days:
Monday, January 19 (Martin Luther King Day)
Wednesday, February 4 (First year dedicated interview period)
Wednesday, February 25 (First Midterm from 6-8pm)
Monday, March 16 (Day after Spring Break)
Monday, April 20 (Day before Second Midterm)

Exams

1st Midterm	Wednesday, February 25, 2009	6-8pm	Room TBA
2nd Midterm	Tuesday, April 21, 2009	6-8pm	Room TBA

If you have a conflict with either exam date, you **must** let me know as soon as possible, and in any case by February 2 2009. I will not reschedule exams after this date.

If you are unable to take an exam because you are ill, you must supply me with a doctor's confirmation.

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	Wednesday, January 28
Problem Set 2	Monday, February 9
Problem Set 3	Monday, February 23
Problem Set 4	Wednesday, March 18
Problem Set 5	Monday, April 6
Problem Set 6	Wednesday, April 15

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 interest 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 and the two exams. 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	20%	20 %
1st Midterm	40%	25 %
2nd Midterm	40%	55 %

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
- Commodity forwards/futures
- Hedging with forwards/futures
- Swaps
- Options: basics
- American options
- Pricing options, I: binomial trees
- Pricing options, II: models of stock returns, Black-Scholes
- Option Greeks
- Additional topics as time permits:
 - limits of Black-Scholes
 - corporate securities
 - credit instruments (CDOs, CDSs, etc.)
 - real options
 - more derivative pricing