

Syllabus: Financial Derivatives 206/717
Sections 401, 402, 403
Fall 2008
Professor Philip Bond
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Office hours

Thursdays, 1.30-3pm. I am also happy to make an appointment to speak with you outside of office hours. Please contact me at least a day ahead of time.

Course description

In recent years there has been considerable growth in markets for futures and options; and there has been phenomenal growth in the markets for futures contracts on financial assets, as well as options on these assets. These markets are used by individuals and institutions to meet a variety of objectives. With these instruments, firms and portfolio managers can hedge particular kinds of risk or alter the distribution of the returns on their portfolios in certain ways.

There is a sizeable literature on option and futures valuation. While the theory might at first glance appear advanced and difficult, it is in fact quite accessible. The purpose of the course is to provide the student with the necessary skills to value and to employ options, option-like-instruments and futures. In order to provide a useful treatment of these topics in an environment that is changing rapidly, it is necessary to stress fundamentals and to explore topics at a technical level.

Class times and locations

Section 401: noon-1.30pm, JMHH G65
Section 402: 1.30pm-3.00pm, JMHH G65
Section 403: 3.00pm-4.30pm, JMHH G65

Exceptions:

There will be no class on the following days:
Wednesday October 15 (Focused Interview Period for MBAs)
Monday October 20 (Midterm from 6pm to 8pm)
Wednesday November 26 (day before Thanksgiving)

Exams

Midterm	Monday October 20	6-8pm	Room TBA
Final	Monday December 15	3-5pm	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 September 26. 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.

Deadlines

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 September 17
Problem set 2	Monday September 29
Problem set 3	Wednesday October 8
Problem set 4	Wednesday November 5
Problem set 5	Wednesday November 19
Problem set 6	Wednesday December 3

Books

The reference for this class is:

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

Copies are available at the campus bookstore.

As an additional reference, I also recommend

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

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

Finally, a few students typically ask if I can recommend a more advanced (and more mathematical) text. For such students, I recommend *Financial Calculus: An introduction to derivative pricing* by Martin Baxter and Andrew Rennie.

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. Finally, I will post problem set solutions, and copies of old exam questions.

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	25%	25%
Midterm	30%	20%
Final	45%	55 %

Review sessions

I will hold a review session before each of the two exams. Time and location TBA.

Teaching assistants

Brendan Jung, bjung@wharton.upenn.edu
Juan Laco, placo@wharton.upenn.edu
Erik Summers, erik.summers@gmail.com
Edmund Lee, pklee@wharton.upenn.edu

TA office hours: 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