

BUSINESS FINANCE 723

Winter Quarter 2008

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<i>Class Times and Rooms:</i>	Mon/Wed 1:30pm-3:18pm, Schoenbaum 300
<i>Office Hours:</i>	By appointment only

A. The Course

Overview

• This course explores derivative instruments – primarily futures and options. We will learn to value these securities and how to use them for risk management purposes. A central theme in our discussions on valuation is that there should be no opportunities for riskless arbitrage in an efficient market. We also will learn the mechanics of futures and option trading and implement trading strategies to mitigate various types of price exposures.

Is this course for you?

• The course is primarily quantitative. Previous students taking this course describe the course as intellectually difficult but fun and rewarding with a heavy workload. We cover a large amount of material so that after you are done taking this course you will have a good understanding of derivatives.

• My goal this quarter is to build on your Fin 620 and 722 bases and prepare you for either a career in business or post-graduate studies. In today's business world you cannot achieve these goals without a basic knowledge of derivatives. Corporations and investors are increasingly using these financial instruments to manage risk and take views on prices and interest rate movements.

• This course is not for you if you just want to add a "hot finance topic" course to your resume and are not willing to work.

Prerequisites!!!!

• Business Finance 722 or an equivalent course is the only prerequisite for this course. But if you remember from your 722 days, statistics at the level of Business statistics 330 & 331 and 620 are the prerequisites for 722. Business Finance 620 also had its own set of prerequisites.

• You are expected to be facile with basic mathematics and statistics, basic accounting, basic economics and basic finance skills. If you are shaky on present values, future values, calculating returns, risk return trade-offs, duration and the basics of statistics (means, variance, correlations, and random variables), please review this material!

B. Course Materials

Required Textbook

- John C. Hull, *Fundamentals of Futures and Options Markets*, sixth edition, 2007, Prentice Hall.

Lecture Notes

• I will make my lecture notes available on the course web site for you to download – please make sure you print the notes and bring them to class.

Other Sources

• There will be some occasional handouts in class. I also strongly encourage students to do regular reading of the financial press, such as the *Wall Street Journal*, *Financial Times*, or the business section of the *New York Times*. There also are websites dedicated to derivatives markets. *Futures Magazine* (<http://www.futuresmag.com>) provides information on daily futures market activity, analysis of underlying cash markets and other useful tools for futures trading. Also, information about stock option trading, including real-time access to news and option and stock quotes can be found on the web site of the Chicago Board of Options Exchange (CBOE, <http://www.cboe.com>). Other tools at Mason Hall resource center that were used in previous finance classes also will be useful in 723. These include *Bloomberg* and *Datastream International*.

C. Study Questions

For each class, there is a set of study questions that highlight some aspect of the class material. *These questions will not be collected but they will help you prepare for the exams.* I will solve some of them in class. Answers to these study questions will be posted on the class web site. *Exam questions will be based, in part, on these study questions.*

D. Textbook problems and end of chapter quiz questions

I encourage you to work on the relevant textbook problems and end of chapter quiz questions (that are not already assigned as study questions) after each class. *These problems will not be collected but they will help prepare you for the exams.* I will put a copy of the textbook solutions manual on reserve at the business library.

E. Exams

There will be *two non-cumulative* exams that *will cover material presented in class lectures, study questions, textbook problems and assigned readings.* You will be allowed to bring one 8-1/2" x 11" sheet of paper with notes and formulas (both sides are ok) on it. The paper must be handwritten, not photocopied. Exams are scheduled well in advance so that you can plan around these dates. Please do not ask to be excused from exams for matters of personal convenience. An unexcused absence without supporting documentation (e.g. doctor's note or police report) will result in a grade of zero.

The exam grade will count for *100 percent* of your total course grade and will be calculated such that your higher exam score will be given greater weight than your lower exam score, as follows:

- $(0.60 \times \text{Exam 1} + 0.4 \times \text{Exam 2})$ if your Exam 1 grade is greater than or equal to your Exam 2 grade
- $(0.40 \times \text{Exam 1} + 0.6 \times \text{Exam 2})$ if your Exam 2 grade is greater than your Exam 1 grade.

F. Other Course Policies

Lectures

• Lectures will stress the most important issues addressed in the text. You are responsible for all material covered in class, assigned readings and problem sets. Lectures may go beyond the scope of the textbook for certain topics. Therefore, it is important for you to attend class. **You are responsible for all announcements made in class.** Class lectures will sometimes involve working through problems. Thus, you are required to bring a calculator to every class so that you may work problems and participate in class discussions.

Absences

• As stated in section E, an unexcused absence for an exam without supporting documentation will result in an exam grade of zero. As a matter of professional courtesy, I expect an email or phone message, if you are unable to attend class.

Academic Misconduct

• In accordance with Faculty Rule 3335-5-487, all instances of alleged academic misconduct will be reported to the department chairperson and the Committee on Academic Misconduct. Academic misconduct is grounds for failing the course and may be grounds for further sanctions. Academic misconduct includes, but is not limited to, giving or receiving information during an exam and submitting plagiarized work for an academic requirement.

G. Acknowledgement

Many of the lecture notes and other course materials are derived from those used by Professor Bernadette Minton at the Ohio State University, Professor George Constantinides and Professor Jesus Santos at the University of Chicago, and Professor John Hull at the University of Toronto. I thank all of them for their assistance.

H. Course Outline

Each class period includes *required* readings from *Hull*. **Except for dates for the two exams, dates in the course outline are approximate and subject to change with appropriate notice.**

Course Outline

Week One: January 4

Introduction

- *Hull*, Chapter 1.
- Study Questions: 1.4, 1.5, 1.6, 1.13, 1.14, 1.24, and 1.26.

Week Two: January 7 & January 9

Mechanics of Futures and Forward Markets & Determination of Forward and Futures Prices

- *Hull*, Chapter 2 and 5.
- Study Questions: 2.3, 2.11, 2.16, 5.4, 5.6, 5.9, and 5.14.

Week Three: January 14 & January 16

Determination of Forward and Futures Prices (continued) & Hedging Strategies Using Futures

- *Hull*, Chapter 5 and 3.
- Study Questions: 5.20, 5.23, 5.24, 5.26, 3.1, 3.3, 3.7, 3.18, and 3.24.

Week Four: January 21 & January 23

January 21: NO CLASS

January 23: Interest Rates

- *Hull*, Chapter 4.
- Study Questions: 4.3, 4.11, 4.14, 4.16, and 4.25.

Week Five: January 28 & January 30

Interest Rate Futures & Swaps

- *Hull*, Chapter 6 and 7.
- Study Questions: 6.1, 6.8, 6.9, 6.10, 6.11, 6.13, 6.14, 6.19, 6.20, 7.2, 7.5, 7.10, 7.21, and 7.22.

Week Six: February 4 & February 6

February 4: Review for Exam #1

February 6: Exam #1

Week Seven: February 11 & February 13

Introduction to Options & Properties of Stock Option Prices

- *Hull*, Chapter 8 and 9.
- Study Questions: 8.9, 8.10, 8.17, 8.22, 8.23, 9.9, 9.10, 9.11, 9.12, 9.14, 9.15, 9.16, 9.17, 9.22 and 9.23.

Week Eight: February 18 & February 20

Trading Strategies Involving Options & The Binomial Option Pricing Model

- *Hull*, Chapter 10 and 11.
- Study Questions: 10.4, 10.10, 10.11, 10.12, 10.14, 10.15, 10.19, 11.4, 11.5, 11.6 and 11.11.

Week Nine: February 25 & February 27

The Binomial Option Pricing Model (continued) & The Black-Scholes Option Pricing Model

- *Hull*, Chapter 11 and 12.
- Study Questions: 11.12, 11.13, 11.14, 11.17, 12.4, 12.5, 12.9, 12.12, 12.13, 12.14 and 12.26.

Week Ten: March 3 & March 5

March 3: Options on Stock Indices and Currencies

- *Hull*, Chapter 13.
- Study Questions: 13.3, 13.4, 13.6, 13.9, 13.10, 13.11, 13.16, 13.19, and 13.20.

March 5: Review for Exam #2

Final's Week

March 12: Exam #2 1:30pm – 3:18pm