



Economics Department - Queens College
Fall 2007

Options and Futures Markets 353

BUS 353: prerequisites: BUS241 and BUS350;

highly recommended: MATH131, ECON249, and BUS351)

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Lectures: T/Th 3:05 – 4:20pm, PH 132

Office Hours: T/Th 4.30 – 5.30pm (PH 300-O), other times by appointment

Description:

The creation and trading of derivatives on an exchange is examined. Emphasis is placed on how options and futures can be used for speculation, hedging and arbitrage. Students will learn the reasons for participation in this market, and distinguish the impact between speculation and arbitrage, and their impact on market prices. Most class time will focus on solving for equilibrium prices and learning price parity theorems. These theorems and their assumptions make this course highly technical. Through artificial trading students will get the chance to implement conceptual tools such as profit and loss diagrams, option trading strategies, binominal trees, option greeks, and the Black-Scholes formula. Students will learn how to minimize risk with futures through immunization, asset allocation, and duration matching. Some elements of financial engineering will also be presented, if time allows.

Prerequisite:

Corporate Finance BUS 241 and Investment Analysis BUS 350 must have already been taken with a passing grade. Students who have not taken this course will be dropped from the class. You are expected to be facile with basic calculus, statistics and financial concepts. If you are shaky on present values, future values, calculating returns, risk return trade-offs, duration and the basics of statistics (mean, variance, covariance, correlations, and random variables) then please review this material.

Data analysis and Virtual Trading:

You will be required to open an account on Bloomberg and create an on-line portfolio of options and futures. Virtual trading assignments will also occur outside class time. This class does not in anyway advocate that students should trade securities online with real money. Indeed what you will find out is that in most cases derivative trading is a great place to lose money, not make money.

Required Text:

Robert A. Strong (2005) Derivatives: An Introduction, South-Western Publishing
(Thomson) 2nd Edition ISBN 0324273029

Available at the QC Bookstore and on reserve at the Library for a 2 hour loan period. Try and buy this book second hand for under \$50. This is not a “buy and keep” book.

Additional Optional Readings:

Additional readings will be listed on Blackboard and made available there or via Library Reserve <http://www.reserve.qc.edu>, password: uss353, or Blackboard.

Course Requirements:

The course grade will be based on 6 quizzes, 4 assignments, 3 exams (2 midterms and a final) and class participation and out of class virtual trading. You will need to read approximately one chapter per week and do practice quizzes in Blackboard which will help for you with the in-class quizzes, the exams and the assignments.

*** Quizzes:**

There will be 6 quizzes of 5 to 10 questions lasting 15 minutes at the beginning of class. The content of the quiz will come from the text (chapters listed below). Practice quizzes are on Blackboard under "Quizzes".

Quiz 1 : chapters 2 and 3

Quiz 2 : chapters 4 and 5

Quiz 3 : chapter 6

Quiz 4 : chapters 7

Quiz 5 : chapter 8

Quiz 6 : chapter 9

***Assignments:**

There are 4 individual assignments. Check Blackboard for the questions and the method of submission. These assignments will use the Peter Hoadley's Options Strategy Analysis Tools, OptionsXpress, and Excel. Questions and submissions dates will be added to Blackboard.

***Examinations:**

There will be 3 exams during the semester including a cumulative final exam. The exam dates will be added to Blackboard. Practice exam questions are on Blackboard under Quizzes.

Course Assessment:

The weights are as follows

1. Attendance and class participation: 5%
2. Virtual trading participation with RIT and OptionsXpress: 5%
3. 6 Quizzes: 10%
4. 4 Assignments: 20%
5. Mid Semester Exam 1: 20%
6. Mid Semester Exam 2: 20%
7. Final Exam: 20%

Computer and Calculator:

You will need access to a personal computer where you can download software and have access to Excel and the internet. You will need to install the RIT client trading software found on Blackboard. You will also need a calculator. It is an advantage to have a financial calculator, but not a requirement. I recommend the HP 10B-II (costs about \$30) or the TI BA-II Plus (costs about \$30). You are expected to learn how to use this calculator on your own. Everyone should sign up for a Bloomberg account. This is professional data and trading software used by the financial industry. There is only one terminal and it is located in PH 300. Sign up sheets are on the table to book hourly slots.

Online Tools:

Everyone should sign up for a virtual account on *OptionsXpress*. This is a trading website which you register online and it allows you to do virtual (paper) trading. This website is free and allows you to experience placing trades and managing a portfolio of equities, options and futures without the risk of monetary loss. A link is on Blackboard under “External Links” <http://www.optionsxpress.com/welcome/tour/paper.aspx?nav=quick> Other tools used in class will also be available under “External Links” in Blackboard.

Blackboard:

The syllabus, lecture notes, assignments, grades, practice quizzes, links and announcements will be available on Blackboard: <http://www.cuny.edu/>.

Update your email for the class on Blackboard as soon as possible!

Without the correct email you will not receive class email notices.

Class Organization, Procedures and Expectations:

This class is difficult for most students; it requires good analytical skills and some mathematical problem solving. To do well most students must study regularly instead of waiting until the last minute to cram. Therefore, I have the following expectations of you:

- Read the assigned book material and PowerPoint slides before each lecture.
- Work on the assigned homework quizzes. First solve these without the answers.
- Work on the assigned homework questions – start early so that you can ask questions on how to solve these in blackboard.
- Devote at least six to nine hours a week outside of class for studying.
- See me as soon as you encounter difficulties.
- Be active in out of class trading scenarios.
- Have a positive attitude about learning and be respectful of others.
- Be on time for class and participate as much as possible.

Each class period includes required readings from the text book. Dates in the course outline are approximate and subject to change. Additional readings to the text book chapters are available on Blackboard.

Class Meeting Date	Subject	Chapter Reading Assigned
Aug 28	Basic principles of options and futures	1
Aug 30	Option fundamentals; terminology; basic relationships; profit and loss diagrams	2
Sept 4	Option payoffs	3
Sept 6	Option strategies; covered calls and protective puts	3-4
Sept 11	Quiz I on Chapters 2 & 3 Combinations and spreads	4
Sept 20	Video: Trillion Dollar Bet	
Sept 25	Option pricing: put call parity Assignment 1 due	5
Sept 27	Option pricing: put call parity	5
Oct 2	Binomial option pricing	5
Oct 4	Quiz II on Chapters 4 & 5 Revision	1-5
Oct 9	First Mid-term Exam	1-5
Oct 11	Binomial option pricing & Intuition into Black-Scholes	5-6
Oct 16	Assignment 2 due Black Scholes pricing model	6
Oct 18	Black-Scholes	6
Oct 23	Option Greeks Quiz III on Chapter 6	7
Oct 25	Option Greeks Quiz IV on Chapter 7	7
Oct 30	Assignment 3 due Revision	5-7
Nov 1	Second Mid-term Exam	5- 7
Nov 6	Basic Principles of Futures; hedgers and speculators	8
Nov 8	Futures	8
Nov 13,15	Stock index futures; fair value and synthetic positions Quiz V on Chapter 8	9
Nov 20	Assignment 4 due Basics of Foreign Exchange Futures	10
Nov 27	Basics of Interest rate Futures Quiz VI on Chapter 9 & 10	11
Nov 29	Revision	
Dec 4,6	Revision	
Dec 11	Final Exam	1-11

This syllabus is dated 27th August, 2007