

Fin 641 – Derivatives Markets Fall 2016

1. Basic Information:

Instructor: Zhipeng Yan, Ph.D., CFA., FRM.

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Office Hours: Thursdays, 2:30 – 5:30PM and by appointment

2. Prerequisites:

Knowledge of mathematics, including basic calculus and statistics are required. Because this course involves number crunching, you should be familiar with some sort of spreadsheet software, e.g. Microsoft Excel.

3. Course Materials:

Required:

- *Options, Futures and Other Derivatives*, John C. Hull, 8th ed, Prentice Hall, ISBN: 978-0-13-216495-5
- DerivaGem Version 2.01 for Excel. Accompanied with the textbook. (Update can be downloaded from Hull's website: [http:// www.rotman.utoronto.cca/~hull](http://www.rotman.utoronto.cca/~hull))
- *Risk Takers: Uses and Abuses of Financial Derivatives*, John Marthinsen, 2nd ed, Prentice Hall, ISBN: 978-0-32-154256-4.
- Subscription to one of: Wall Street Journal, Financial Times.

Recommended Readings

- *Options, Futures and Other Derivatives*, Student Solutions Manual, 8th ed.
- *When Genius Failed*, Roger Lowenstein, Random House
- *Options for the Beginner and Beyond: Unlock the Opportunities and Minimize the Risks*, W. Edward Olmstead

Additional materials will be posted on Moodle during the semester.

Course Website:

Please go to moodle.njit.edu. The Moodle site is where course materials are posted and where you discuss and share your thoughts with your classmates. Make sure you have an NJIT UCID and password so that you are able to access Moodle. I will use Moodle to

post all assignments, announcements, and supplemental materials throughout the semester. **So, please be sure to check the site (moodle.njit.edu) frequently. Please contact helpdesk (973-596-2900) for problems associated with Moodle.**

4. Course Description:

The goal of Derivatives Markets is to introduce students to one of the cornerstones of the financial markets, derivatives theory and structures. We will focus on quantitative tools, pricing and practical applications.

This course will cover a wide array of derivatives, including forwards, futures, options, swaps, caps, floors, collars and exotics. Practical applications will include the commodity, foreign exchange, interest rate and credit markets.

The material in this course is *quantitative and conceptually difficult*. You must stay on top of the readings and assignments or else this material can bury you. If you resort to “cramming” for this course, you will definitely not do well!

5. Learning Goals & Learning Outcomes:

Learning Goal 1: Analytical & Problem Solving Skills

- **Learning Outcome 1.1** – Learn how major derivatives markets operate.
- **Learning Outcome 1.2** – Learn how derivatives, such as futures and options, are priced.
- **Learning Outcome 1.3** – Learn how derivatives are used in practice (investment and risk management)

Learning Goal 2: Information & Communication Skills

- **Learning Outcome 2.1** (Oral Communication) - Ability to deliver effective presentations enhanced by technology.
- **Learning outcome 2.2** (Written Communication & Information Literacy) - Ability to write clear and concise reports.

Learning Goal 3: Reflective Thinking Skills

- **Learning Outcome 3.1** – Ability to think and understand various concepts clearly

Learning Goal 4: Ethical Understanding & Reasoning Abilitie

- **Learning Outcome 4.1** - Understand the moral implications and ethical schema of individual (financial managers and risk managers) and corporation decisions and actions

6. Course Requirements:

Participation (20%):

Reflects quality and quantity of participation online. Includes actively contributing to discussion; demonstrated knowledge/understanding of assigned materials; and leadership and problem-solving.

Quizzes (30 points)

There will be weekly online quizzes for each module. There will be no make-up quizzes, no exceptions. Please check the due dates for quizzes and make sure you do NOT miss any quiz.

Exams (50 points)

There will be three exams. Your grade is calculated on a best 2-out-of-3 basis. If an exam is missed – whether due to an emergency, tragedy, or simply because you are unprepared – then the remaining two test scores will be used to compute your class grade. ***There are no exceptions to this policy.*** Be advised that some assigned reading materials will not be covered in the class but will show up in the tests. Anything covered in class and in the assigned reading materials is a fair game.

Grading

Your overall grade for the course is calculated as follows.

Participation	20%
Quizzes	30%
Exam #1	25%
Exam #2	25%
Final Exam (Cumulative)	25%

Your grade will be determined by the best 2 of the 3 exams, the ¹homework, and the attendance.

The final course grade will be assigned as follows:

A 90 – 100%	B+ 85 – 89.99%
B 80 – 84.99%	C+ 70 – 79.99%

C 60 – 69.99%

F below 60%

Your total scores may be curved at the discretion of the instructor.

7. Disability:

Students with special needs as outlined under the Americans with Disabilities Act should first register with the Counseling Center, 205 Campbell Hall 973 596-3414. Go to the web address http://www.njit.edu/publicinfo/pdf/counseling_ada2004.pdf for more information. If you wish to have a reasonable accommodation made for you in this class, please discuss the matter with me at the earliest possible time.

8. Academic Honesty:

You are expected to be honest in all of your academic work. Instances of alleged dishonesty will be forwarded to the Dean of Students for appropriate action. Potential sanctions include failure in the course and suspension from the University.

9. Important Remarks:

- Make up exams will not be given.
 - Late quizzes will not be graded.
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Disclaimer: *The course outline may be modified at the discretion of the instructor or in the event of extenuating circumstances. Students will be notified in class of any change.*

Schedule of Lectures (subject to revision)

Tentative Date	Chapters and Topics
September 6 – September 12	Introduction and Futures Markets; Chapters 1 and 2
September 13 – September 19	Hedging strategies using futures; Chapter 3
September 20 – September 26	Interest rates; Chapter 4
September 27 – October 3	Determination of forward and futures prices; Chapter 5
October 4 - October 10	Interest rate futures; Chapter 6
October 11 - October 17	Swaps; Chapter 7
October 18 - October 24	Exam I (Chapters 1 – 7)
October 25 - October 31	Properties of options; Chapters 9 and 10
November 1 – November 7	Trading strategies involving options; Chapter 11
November 8 – November 14	The Binomial trees; Chapter 12
November 15 – November 21	The Black-Scholes-Merton model; Chapter 14 (excl 14.6)
November 22 – November 28	Options on stock indices, currencies and futures; Chapters 16 and 17
November 29 – December 4	The Greeks; Chapters 18
December 5 – December 11	Exam II (Chapters 9-12, 14, 16-18)
December 16 – December 22	Final Exam (Cumulative)

** I reserve the right to alter the class schedule as circumstances dictate. Changes to the syllabus will be announced in advance.