

**The University Of Texas At Austin
The McCombs School of Business**

Energy Financial Risk Management

FIN 377.5

Fall 2016

Location: CBA 5.142A
Time: MW 9:30-11:00
Professor: Josh Alexander, CFA
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Office Hours: 11:30AM; CBA 6.224

I. Course Description

While risk management always been a crucial component to a firm's financial well-being, recent economic events have escalated its importance within financial pedagogy and practice. To succeed, firms need to determine to which risks they are exposed, and which risks a firm should keep, moderate, or ultimately eliminate. This course provides an introduction to making such choices by providing a basic understanding of how to value and utilize various derivative instruments, including futures, forwards, swaps, options, and other advanced derivative instruments. Students should note that this is a highly technical course, and a substantial amount of mathematics and statistics will be used.

The first part of the course will provide a primer on risk and derivative basics, including types of securities and basic trading and hedging strategies. Next, we will examine the pricing of various non-option derivatives. In the second part of the course, we will examine the pricing of options. We will develop several models, including the Binomial Option Pricing model and the Black-Scholes-Merton Option Pricing model. The course will conclude with advanced topics, including financial engineering, corporate hedging applications, real options, value-at-risk, and credit and interest-rate derivatives.

II. Classes

This course meets Mondays and Wednesdays in this GSB 5.142A. The class meetings will be a mixture of lecture and discussion. Readings should be completed prior to the scheduled class, and you should come prepared to contribute to classroom discussion. The current markets provide a wealth of "real-world" material, which will also likely be discussed briefly in class.

III. Prerequisites

FIN 377.5 is an elective course, restricted for students who are currently enrolled in a major program in the College of Business Administration. The prerequisite is credit or enrollment in FIN 367, and Mathematics 408D or 408L. Further, students will benefit from having strong analytical and spreadsheet skills; however, there is no expectation of computer programming in this course.

IV. Course Material

I use a variety of materials (textbooks, academic papers, etc.) in constructing my notes for this class. Given that this is an advanced undergraduate elective course, I will not be teaching directly from the textbook, although one is required. View the required textbook as a supplementary view of my class lectures, which, given the complexity of the material covered in this course, should aid in a better understanding of the material.

- Textbook - Hull, John C., "Options, Futures, and Other Derivatives", 8th edition, Pearson
- Additional Recommended Reading – *Against The Gods*
- Handouts - Any handouts that are given in class are considered important and testable material. This includes lecture notes on Blackboard, which will be made available prior to each class period.

V. Group-work

Group-work is a very important component of this course

Each group should consist of 2-4 people, and I strongly urge you to form groups as soon as possible. Once you have formed a group, please send me an email with a list of the members' names and email addresses. Also, please choose a group name (be creative, but tasteful, please) so that I can refer to you more easily.

The purpose of the group is the Derivative Project, which will be assigned after the first exam.

VI. Grading

The overall score will be determined as the accumulation of all scores from the various course assignments:

Class participation	100 points
Derivative Project	175 points
Exam I	175 points
Exam II	250 points
<u>Final Exam</u>	<u>300 points</u>
Total	1000 points

- a. Projects
 - i. There will be one (1) project assigned in this class. This project is comprehensive in nature as it will draw from various modules of the course.
 - ii. The project will be assigned after the first exam and due the second to last week of class.
- b. Exams
 - i. There will be three (3) exams during the semester.
 - ii. The first two exams will cover an individual module of the course, and the final exam will be comprehensive, focusing on the third module with selected topics from previous modules.
- c. Participation
 - i. While class attendance is not mandatory, a small component of the final grade is participation.
 - ii. Participation comes in many forms, including asking value-added questions in class, answering questions in class, and facilitating meaningful discussion in class.
 - iii. Golden Rule of Participation – the appropriate degree of participation is capped by either too much or too little participation
 - 1. Too much > 3x per class
 - 2. Too little < once per 3 classes
- d. Class Ranking Provisions
 - i. Provision 1 – If you score at or over 900 (90.0%) in the class, you will receive some form of an A (A or A-).
 - ii. Provision 2 – If you do not score at or over 900 (90.0%) AND you are ranked by final score in the top 25.0% of the class, you will receive some form of an A (A or A-).
 - iii. Provision 3 – If you do not score at or over 900 (90.0%) AND you not ranked by final score in the top 25.0% of the class, you will NOT receive some form of an A (A or A-).

VII. *General Policies*

- a. Continuous Feedback
 - i. I encourage you to give me feedback about the course material, my teaching style and anything else that would help you learn the course material better. You should come and talk to me in person if you have any concerns and/or suggestions. However, if that makes you uncomfortable, you can send me an anonymous email from a class email account that I have created at www.mail.google.com.
 - 1. **Login: fin377.2@gmail.com**
 - 2. **Password: A13xand3r** (case sensitive password).
- b. Students with Disabilities
 - i. The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. For more information, contact the Division of Diversity and Community Engagement, Services for Students with Disabilities at 471-6259, <http://www.utexas.edu/diversity/ddce/ssd>

- c. Academic Dishonesty
 - i. Academic dishonesty will not be tolerated. Any individual suspected of cheating, including stealing or using stolen examinations, will be disciplined to the maximum extent possible. Review UT Honor Code at <http://registrar.utexas.edu/catalogs/gi09-10/ch01/index.html>
 - ii. The McCombs School of Business has no tolerance for acts of scholastic dishonesty. The responsibilities of both students and faculty with regard to scholastic dishonesty are described in detail in the Policy Statement on Scholastic Dishonesty for the McCombs School of Business:
 - 1. *By teaching this course, I have agreed to observe the faculty responsibilities described in that document. By enrolling in this class, you have agreed to observe the student responsibilities described in that document. If the application of that Policy Statement to this class and its assignments is unclear in any way, it is your responsibility to ask me for clarification. Policy on Scholastic Dishonesty: Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. You should refer to the Student Judicial Services website at <http://deanofstudents.utexas.edu/sjs/> or the General Information Catalog to access the official University policies and procedures on scholastic dishonesty as well as further elaboration on what constitutes scholastic dishonesty.*
- d. Religious Holidays
 - i. By UT Austin policy, you must notify me of your pending absence at least fourteen days (2 weeks) prior to the date of observance of a religious holy day. If you must miss a class, an examination, or a project in order to observe a religious holy day, you will be given an opportunity to complete the missed work within a reasonable time after the absence.
- e. Calculators
 - i. Recommended for this course is a financial calculator capable of calculating present values, solving for yields, and performing other basic time value calculations. Students bear the responsibility for learning to operate their calculators proficiently. Programmable calculators must be cleared before each test; and there is no sharing of calculators during the test. Present value/future value tables will not be furnished with the examinations. It should be emphasized that the calculator cannot replace an understanding of the problem solving process.
- f. Class Web Sites and Student Privacy:
 - i. Password-protected class sites will be available for all accredited courses taught at The University. Syllabi, handouts, assignments and other resources are types of information that may be available within these sites. Site activities could include exchanging e-mail, engaging in class discussions and chats, and exchanging files. In addition, class e-mail rosters will be a component of the sites. Students who do not want their names included in these electronic class

rosters must restrict their directory information in the Office of the Registrar, Main Building, Room 1. For information on restricting directory information see:
<http://www.utexas.edu/student/registrar/catalogs/gi02-03/app/appc09.html>

- g. Other Important Course Policies:
- i. The lectures will sometimes cover extra material (e.g., exercises, discussions) not contained in lecture notes. You are responsible for everything covered or assigned in class. If you miss a class, it is entirely your responsibility to determine what you have missed including any administrative announcements I may have made.
 - ii. Should you have to leave class early, please have the courtesy of letting the instructor know before the beginning of the period and leave quietly so as not to disturb the other members of the class.
 - iii. E-mail and the Internet access are not allowed during lectures. The use of laptop computers is permitted solely for the purposes of taking notes and obtaining course materials. Mobile phones (both smart and inept) and other electronic devices need to be set to silent during class at all times.
 - iv. Examinations will not be returned. Students can review their exams only during the week directly following the examination. If you feel your posted examination grade is incorrect, you must notify me in writing during this same one-week period. After one week, the examination papers will be stored and the problem will not be researched.

NOTE

I reserve the right to make modification(s) to this syllabus. The modifications (if any) will be announced in class. You are responsible for all announcements made in class.