

UNIVERSITY OF TEXAS AT AUSTIN
McCombs School of Business
Department of Finance

Finance 377, Topic 5, Unique #03850
Energy Financial Risk Management

Dr. Ehud I. Ronn
Spring 2021

Class Hours: TTh, 9:30 – 11:00 a.m.

Contact Info: CBA 6.270, eronn@mail.utexas.edu, 471-5853

Office Hours:

1. TTh, 5:30 – 6:30 p.m. I hold office hours as open to all students seeking to pose questions regarding the presented materials, and past and concurrent problem sets.
2. Until advised otherwise, office hours will be held through my personal Zoom ID:

Topic: Ehud I. Ronn's Personal Meeting Room

<https://utexas.zoom.us/j/7144785499>

Meeting ID: 714 478 5499

Note this Zoom Personal Meeting Room is different from our class Zoom meeting.

3. I would like to be of assistance regarding post-graduation employment opportunities. For that purpose, or for personal issues, pls. e-mail for an appointment.

Teaching Assistant: Harshit Nainwani

harshitnainwani@utexas.edu

Hours TBA

Harshit's roles include:

1. Response to students' clarifying questions regarding problem sets
2. Updating students who have missed classes

Course Prerequisites: FIN 367 Investment Management

Newspaper: Student rates available for *Wall Street Journal*. Subscribe through wsj.com/studentoffer

Textbook: **Derivative Markets**, Robert L. McDonald, Addison-Wesley, 2012. The 2nd Edition is an acceptable alternative.

The textbook serves as supplementary material; the course does not "follow" the book. Rather, the predominant material in this course is presented in the Lecture Packet.

Grading: The Final Grade in the course will be determined by the relation:

$$\text{Final Grade} = 0.45 \times \text{Final Exam} + 0.35 \times \text{Midterm Exam} + 0.2 \times \text{Problem Sets}$$

Class participation, especially important for an online course, will also be taken into consideration in the determination of the final grade:

1. When posing questions in class, students assist not only their own comprehension, but perform a social role of assisting those of their peers who may have hesitated in posing these questions.
2. Consequently, class participation will be recognized, and can only *increase* (and never reduce) students' grades.

Based on past pattern, the distribution of grades will likely be 40% "A"s, 45% "B"s, 10% "C"s and 5% below "C". In accordance with University policy, plus/minus grading will apply to this course.

Problem Sets:

1. Approximately 15 problem sets will be disseminated and assigned throughout the semester.
2. These questions are designed to:
 - (a) Provide students with problem-solving experience
 - (b) Constitute mini-case studies
 - (c) Enhance understanding of markets, financial instruments, and financial risk management
3. As befits a professional school, students' responses to these problem sets should be neatly typed, clear and complete. They may be submitted in the form of word or Excel docs to the "Assignments" folder on Canvas.
4. While students may submit their problem-set individually, they may — and typically choose to — submit their responses in groups of up to four students. As a student prerogative, I allow students to form their desired problem-set groups. In order to assist students who have not joined a problem-set group but are interested in being members of a group, the class TA Harshit will collect their names and assign them to groups in alphabetical order.
5. Problem set grades will be confidentially reported to the Grades folder in Canvas. This will permit students to confirm they have received credit for submitted problem sets.
6. Solutions to problem sets will be posted to the Files folder on Canvas as well as reviewed in class.

Case Studies:

FIN 377.5 is designed to provide students with a fundamental understanding of energy-risk management in financial markets, in particular, swaps, futures and options contracts. As such, the scope for case studies is limited to the following case studies:

1. MW Petroleum Case (risk sharing; valuation of average-style options)

2. Hedging the Price Exposure of an International Air Carrier
3. Valuation of Power Plants

Access to Bloomberg:

As you will readily observe from the Lecture Packet, for both data acquisition as well as analysis, I am an avid user of the Bloomberg system. Esp. for those of you interested in positions in financial services, knowledge of and familiarity with the Bloomberg system can be a strong selling point in the recruitment process for BBA graduates. To promote this, there are two avenues we are offering for access to the Bloomberg system:

1. Access to the Financial Education and Research Center (FERC) Mon. – Thur. 9 a.m. to 5 p.m.
2. So long as we seek to continue with limited F2F interaction, within the confines of the number of accounts to which McCombs has access, the FERC will permit limited remote access to Bloomberg. At this juncture I would like to extend such access to problem-set groups (rather than individuals). To gain such access, I would ask you to send an e-mail to Derek Fisher at Derek.Fisher@mcombs.utexas.edu, identifying the member(s) of the group requesting remote access. Detailed instructions for establishing a Bloomberg account will be uploaded to our class' "Files" folder on Canvas.
3. So long as we are constrained in access to Bloomberg, I do not anticipate assigning problem sets which will require use of the Bloomberg system. This access, in person or remote, is purely designed to enhance your educational experience and its practical usefulness.

In-Class Handouts:

1. Classes will typically begin with slides covering administrative issues, occasional issues of topical interest, and problem set questions and solutions to previous problem sets.
2. At the beginning of each class session, these slides will be uploaded to Canvas Files folder for student retrieval.

3. I request these documents not be shared, electronically or in paper form, with anyone outside the class.

Lecture Packet:

1. The Finance 377, Topic 5 Lecture Packet, constitutes a set of notes which includes the totality of material to be covered in the course.
2. In its seven “Topics” files, the Lecture Packet has been uploaded to our class’ Files section on Canvas.
3. The FIN 377.5 Lecture Packet is not designed to be a *book*, but rather a detailed set of lecture notes requiring in-class attendance and active participation to be fully useful. Since you may not have access to a paper version of the Lecture Packet, to be most helpful for subsequent use, it is recommended you prepare loose leaf pages on which to take notes.
4. In addition to the e-copy posted electronically to our Canvas website, the course’s Lecture Packet will also be printed in a paper publication. A small number of lecture packets will be available at the GSB Duplicating Copy Center. Should you wish to obtain such a physical packet but do not wish to come to the GSB, you can purchase it at the on-line store through payment of shipping fees.

Midterm Exam:

1. The Midterm Exam will be held in class on March 11th.
2. The questions for the Midterm will be patterned after the questions contained in the problem sets (those requiring no more than a reasonable amount of data manipulation). Thus, students will be able to familiarize themselves with the format and types of questions to be encountered in the Midterm.
3. Prior to the Midterm, a list of review topics, containing concepts introduction in the first half of the semester will be disseminated in the class.

4. Material presented by in-class visitors from industry and/or academia may be included in the Midterm.
5. Students will be asked to work with their video monitor activated throughout the exam.
6. A copy of the 2020 Midterm Exam and its Solution may be found towards the end of this class' Lecture Packet.

Final Exam:

1. The Final Exam will be held in-class at our last session Thur. May 6th.
2. A list of review topics will be distributed prior to the end of the semester. The review topics will briefly summarize the concepts introduced throughout the course.
3. As was the case for the Midterm, the questions on the Final Exam will resemble those of the Problem Sets, and will include material on visitors' in-class presentations.
4. A copy of the 2020 Final Exam and its Solution key may be found at the end of this class' Lecture Packet.

Class Presentations:

Here is the current lineup for Industry/External Academic Presentations:

Company/University	Visitor(s)	Date
Labhart Risk Advisors	Glenn Labhart	Feb. 16
Bloomberg	Zef Lokhandwalla	March 2
Chevron	Michael S. Brown and Nicole Wood	April 6
Vega Energy Partners	Chris Krieg	April 13

Class Protocols:

1. Class begins promptly at 9:30 a.m.
2. A conduct of professionalism is expected:
 - (a) Disable phones and wireless devices.
 - (b) Uphold University Honor Code: Work on the Midterm and Final Exam is *individual*; problem-set work may be communicated within the group but not outside the group
3. In order to assist qualified students, students with disabilities will receive appropriate academic accommodations per the Division of Diversity and Community Engagement, Services for Students with Disabilities, <http://www.utexas.edu/diversity/ddce/ssd/>.

Zoom Etiquette:

Recognizing Zoom is an excellent but imperfect substitute for F2F meetings,

1. Keep your video camera on at all times.
2. Mute yourself unless you are speaking.
3. Pose questions or comments by using the “raise” hand feature or typing in the chat window. If done reasonably, feel free to interrupt my presentation indicating a desire to pose a question or convey a comment.
4. Our class Zoom meeting is at <https://utexas.zoom.us/j/98773690524>.

Syllabus Guidance, Fall 2020:

Per the Office of the Executive Vice President and Provost, class recordings are reserved only for students in this class for educational purposes and are protected under FERPA. The recordings should not be shared outside the class in any form.

Course Outline:

The objectives of this course are to give an introduction into the basics of energy trading as well as price formation mechanism in the oil and gas industry and to introduce students to the manner by which energy corporations manage their business risk (esp. price) exposures, and the derivative securities which can be utilized for this purpose:

1. Overview of energy markets, and their relationship to political, financial and economic events, and other financial markets
2. Principles of risk management: Objectives and tools
3. Proper role of derivatives in firms' risk management
4. Differences between exchange and OTC Markets
5. Understanding the main terminology used in the industry
6. Understanding the linkage between physical and financial oil & gas markets
7. Understanding the role of financial markets as efficient conveyors of information and assessors of risk
8. Understanding the valuation and role of futures contracts and swap agreements
9. Understanding the principles of option and derivative-claim valuation, hedging and uses
10. Understanding the structuring, reverse engineering and valuation of OTC derivatives

Summary:

1. The predominant material in this course is presented in the Lecture Packet.
2. Problem sets, some of significant scope, will be disseminated and assigned throughout the semester.
3. While math is used primarily to bolster intuition, students should be cognizant this Finance course is, in parts, highly quantitative. In particular, I will review those statistics concepts I deem necessary for proper class coverage.