

Online Course Syllabus

Course Information

<i>Course Number/Section</i>	FIN 6360/0w1
<i>Course Title</i>	Derivatives Markets
<i>Term</i>	24S

Professor Contact Information

<i>Professor</i>	Feng Zhao
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<i>Office Location</i>	JSOM 14.518
<i>Online Office Hours</i>	T: 10 - 11 AM

Note: state time/day and how office hours will be held, e.g., BlackBoard Collaborate or MS Teams (add appropriate links) and/or phone call – optional; please ensure student's identity in adherence to FERPA

Course Pre-requisites, Co-requisites, and/or Other Restrictions

FIN 6307

Course Description

This course examines the valuation of derivative securities such as options and futures contracts and the use of these instruments in managing business and financial risks. The topics to be covered include the pricing of futures contracts, swaps, and options, the use of derivative instruments in hedging, portfolio insurance, exotic options, and the valuation of options on debt instruments.

The topics covered in this course are of fundamental importance for various participants in the economy to understand the risks involved in derivatives markets, from making investment decisions to devising economic policies. Misuse of financial derivatives often causes damage to institutions, markets, and the entire economy. This class aims to help you develop a framework for analyzing and using these financial instruments. The first half of the class covers forward, futures, and swaps. Using simple algebra, we will develop pricing models for these securities. This part of the course emphasizes the economic intuition of no-arbitrage pricing principle. The second half examines advanced materials for options, such as the Black-Scholes model and risk management. This part of the course develops the technical skills necessary for conducting model-based pricing and hedging with various derivatives.

Student Learning Objectives/Outcomes

At the end of the class, the students should be able to

- Analyze the risks within various derivative securities
- Conduct risk management with derivatives
- Master the fundamental of derivative pricing models

Required Textbooks and Materials

Required Texts

An Introduction to Derivative Securities, Financial Markets, and Risk Management, by Robert A. Jarrow, Arkadev Chatterjea, W W Norton & Company, 2013

Required Materials

Lecture notes are the primary resource for the class, and they are distributed via eLearning. Parts of the notes are left blank intentionally to be completed in class.

Suggested Course Materials

Suggested Readings/Texts

Options, Futures, and Other Derivatives, 10th Edition (or later) by John C Hull

Suggested Materials

The following books are also useful for the history of the development of option pricing theories. When Genius Failed: The Rise and Fall of Long-Term Capital Management, by Roger Lowenstein, Random House, 2000. Inventing Money: The Story of Long-Term Capital Management and the Legends Behind It, by Nicholas Dunbar, John Wiley & Sons, 2000. The Wall Street Journal, Financial Times, CNBC or other financial news outlets are also recommended for reading about practical applications of financial derivatives.

Textbooks and some other bookstore materials can be ordered online or purchased at the [UT Dallas Bookstore](#).

Technical Requirements

In addition to a confident level of computer and Internet literacy, certain minimum technical requirements must be met to enable a successful learning experience. Please review the important technical requirements on the [Getting Started with eLearning](#) webpage.

Course Access and Navigation

This course can be accessed using your UT Dallas NetID account on the [eLearning](#) website.

Please see the course access and navigation section of the [Getting Started with eLearning](#) webpage for more information.

To become familiar with the eLearning tool, please see the [Student eLearning Tutorials](#) webpage.

UT Dallas provides eLearning technical support 24 hours a day, 7 days a week. The [eLearning Support Center](#) includes a toll-free telephone number for immediate assistance (1-866-588-3192), email request service, and an online chat service.

Communication

This course utilizes online tools for interaction and communication. Some external communication tools such as regular email and a web conferencing tool may also be used during the semester. For more details, please visit the [Student eLearning Tutorials](#) webpage for video demonstrations on eLearning tools.

Student emails and discussion board messages will be answered within 3 working days under normal circumstances.

Distance Learning Student Resources

Online students have access to resources including the McDermott Library, Academic Advising, The Office of Student AccessAbility, and many others. Please see the [eLearning Current Students](#) webpage for more information.

Server Unavailability or Other Technical Difficulties

The University is committed to providing a reliable learning management system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will provide an appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and also contact the online [eLearning Help Desk](#). The instructor and the eLearning Help Desk will work with the student to resolve any issues at the earliest possible time.

Academic Calendar

WEEK/ DATES	TOPIC/LECTURE	READING	ASSESSMENT / ACTIVITY	DUE DATE
1 1/16-1/21	Module 1: Introduction and Course Overview	<i>Chapter 1, 4 and 8 of JC, Chapter 1 of Hull</i>	Form study groups Homework 1	1/21
2 1/22-1/28	Module 2: Forward Contract	<i>Chapter 11 of JC, Chapter 5.1-5.8 of Hull</i>	Homework 2	1/28
3 1/29-2/4	Module 3: Futures Contract	<i>Chapter 12 of JC, Chapter 2 of Hull</i>	Homework 3	2/4
4 2/5-2/11	Module 4: FX and Stock Index Futures	<i>Chapter 12 of JC, Chapter 5.9-10 of Hull</i>	Homework 4	2/11
5 2/12-2/18	Module 5: Commodity Futures and Summary of Futures	<i>Chapter 12 of JC, Chapter 5.11-14 of Hull</i>	HonorLock Exam 1 on 2/18	
6 2/19-2/25	Module 6: Hedging Using Futures Contracts 1	<i>Chapter 13 of JC, Chapter 3.1-3 of Hull</i>	Homework 5	3/3

WEEK/ DATES	TOPIC/LECTURE	READING	ASSESSMENT / ACTIVITY	DUE DATE
7 2/26-3/3	Module 7: Hedging Using Futures Contracts 2	<i>Chapter 13 of JC, Chapter 3.4-6 of Hull</i>	Homework 5	3/3
8 3/4-3/10	Module 8: Swaps	<i>Chapter 7 and 22 of JC, Chapter 7.7-9 of Hull</i>	Homework 6	3/10
9 3/11-3/17	Spring Break			
9 3/18-3/24	Module 9: Introduction to Options, Options Market; Options Strategies	<i>Chapter 5 and 14-5 of JC, Chapter 10 and 12 of Hull</i>	Homework 7	3/24
10 3/25-3/31	Module 10: Properties of Stock Options	<i>Chapter 16 of JC, Chapter 11 of Hull</i>	HonorLock Exam 2 on 3/31	
11 4/1-4/7	Module 11: The Binomial Model of Option Pricing 1	<i>Chapter 17 of JC, Chapter 13 of Hull</i>	Homework 8	4/14
12 4/8-4/14	Module 12: The Binomial Model of Option Pricing 2	<i>Chapter 18 of JC, Chapter 13 of Hull</i>	Homework 8	4/14
13 4/15-4/21	Module 13: Black-Scholes Option Pricing Model	<i>Chapter 19 and 20 of JC, Chapter 14, 15 of Hull</i>	Homework 9	4/21
14 4/22-4/28	Module 14: Interest Rate Model 1	<i>Chapter 21, 23 of JC, Chapter 4, 29 of Hull</i>	HonorLock Exam 3 on 4/28	
15 4/29-5/5	Module 15: Interest Rate Model 2	<i>Chapter 23, 24 of JC, Chapter 31, 32 of Hull</i>	Extra credit work	5/5

Proctored Final Exam Procedures

If your course has a proctored exam requirement, please see the [UTD Testing Center](#) webpage and [Distance Learning Proctored Exams](#) webpage to make arrangements.

Class Materials

The Instructor may provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded during the course, however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class, or uploaded to

other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

Class Participation

Regular class participation is expected. Students who fail to participate in class regularly are inviting scholastic difficulty. A portion of the grade for this course is directly tied to your participation in this class. It also includes engaging in group or other activities during class that solicit your feedback on homework assignments, readings, or materials covered in the lectures (and/or labs). Class participation is documented by faculty. Successful participation is defined as consistently adhering to University requirements, as presented in this syllabus. Failure to comply with these University requirements violates the [Student Code of Conduct](#).

Class Recordings

Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student AccessAbility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

Note: if the instructor records any part of the course, then the instructor will need to add the following syllabus statement:

The instructor may record meetings of this course. These recordings will be made available to all students registered for this class if the intent is to supplement the classroom experience. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior to such use unless an exception is allowed by law.

Grading Policy

You should form study groups (a maximum of three students per group) to work on homework assignments and submit one copy for each group. Class participation is highly encouraged. The exams are closed-book and closed-notes. The plus/minus grading is used in this course. The grades will be curved based on your rankings in the class. Your grade for the entire course is determined by the following:

Exams	70%
Homework	20%
Class Participation	10%

Course Policies

Make-up exams

Pre-arrangement required. The make-up exams for any missing exams are given at the end of the semester.

Extra Credit

The extra credit work will be available to students with grades below the class average and can improve the grades up to the letter grade corresponding to the class average.

Late Work

Penalty applied.

Special Assignments

Pre-arrangement required.

Classroom Citizenship

Classroom conduct will affect the class participation grade.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

“As a Comet, I pledge honesty, integrity, and service in all that I do.”

Academic Support Resources

The information contained in the following link lists the University’s academic support resources for all students.

Please go to [Academic Support Resources](#) webpage for these policies.

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University’s policies and procedures segment of the course syllabus. Please review the catalog sections regarding the [credit/no credit](#) or [pass/fail](#) grading option and withdrawal from class.

Please go to [UT Dallas Syllabus Policies](#) webpage for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.