

Course Syllabus
Derivative Securities
FIN410 Section 01
3 Credit Hours

Course Description

Students gain a thorough understanding of options, futures, and other financial instruments. Skills are developed in basic pricing analysis, use of pricing models, and trading and hedging strategies. Students are first introduced to the basic techniques for pricing, hedging, and other analysis. Next, these techniques will be applied through an introduction of hedging strategies. The end goal is to develop skills which the students can apply in derivative markets.

Assignments: Each student will be required to complete a series of assignments dealing with derivative pricing and strategies. These assignments will require students to use theoretical models, monitor market prices, and track strategy positions.

Course Objectives

At completion of the course, students will be able to:

- ⇒ *Describe* the operation of option/futures markets
- ⇒ *Calculate* the price various derivative securities
- ⇒ *Create* strategies which meet specified goals (i.e. risk reduction)
- ⇒ *Evaluate* and *change* these strategies in light of changing economic conditions
- ⇒ *Apply* theoretical derivatives knowledge via spreadsheet applications

Instructor

Dr. Matthew W. Will

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Class Format & Meeting Times

Section 01 MWF 8:00 am – 8:50 am

Face to Face

Office Hours via ZOOM or in Office (contact for details)

Mon 11:00 am – 12:00 pm

Tue 4:30 pm – 5:30 pm

Wed 11:00 am – 12:00 pm

By appointment

Required Stuff

Academic Dishonesty and Plagiarism

You must not adopt or reproduce ideas, words, or statements of another person without giving an appropriate acknowledgement to the source. You must give due credit to the originality of others and acknowledge an indebtedness wherever you:

- Quote another person's actual words, either oral or written;
- Paraphrase another person's words, either oral or written;
- Use another person's ideas, opinions, or theories; or
- Cite facts, statistics, or other illustrative material, unless the information is common knowledge.

All assignments must be your original work and not the work of other students. Neither group work nor the individual work of another student may be submitted by you. Submission of such work will be considered academic misconduct. Incidents of academic misconduct, dishonesty and/or plagiarism will be handled as per the Student Handbook.

According to the Student Handbook:

Academic Integrity and Academic Misconduct: The students, faculty, and administrators of the University of Indianapolis commit themselves to the highest level of ethical conduct in academic affairs. The University of Indianapolis, therefore, adopts regulations concerning Academic Misconduct to safeguard the academic integrity of the institution. Academic Misconduct includes, but is not limited to, the following circumstances: (A) Cheating, (B) Fabrication, (C) Plagiarism, (D) Interference, (E) Violation of Course Rules, (F) Facilitating Academic Dishonesty, and (G) Abuse of Confidentiality. For a full statement of the policy refer to the University of Indianapolis Student Handbook, Section I, Academic Information.

ADA & Disability Accommodation

The professor will provide accommodation for students qualifying for disability-related needs. The student should contact the Services for Students with Disabilities office (SSD) to begin the process. (see <http://www.uindy.edu/ssd> for more information).

Class Attendance, Preparation & Participation

Class attendance is an important part of the academic process, and you are expected to attend classes regularly and to manage your schedule in order to meet the demands of this course. If you are absent, you will be responsible for arranging makeup work to be completed prior to the absence or immediately upon return to class at the instructor's discretion. As per the student handbook, reasonable documentation or verification of claims regarding absences may be requested.

Class preparation is critical to success in this course. You are expected to:

- (a) read the assigned material prior to arriving to class, as well as
- (b) review the solved problem illustrations in the chapter and
- (c) prepare a list of questions that you have about the topic.
- (d) participate in class discussions

Please note that the course topics build upon prerequisite knowledge of fundamental business concepts, algebra and basic spreadsheet skills. If you feel you may be deficient in any of these areas, you are encouraged to review them and/or seek tutoring outside of class.

Recording & Copyright Policy

Recording of course lectures and reproduction of class content is not permitted without his expressed permission of Dr. Will. All content created by Dr. Will is copyrighted and he reserves all rights of reproduction and distribution.

IMPORTANT STUFF

UIndy COVID Related Policies

Students should frequently visit the UIndy COVID policy website <https://www.uindy.edu/coronavirus/>, as policies are frequently updated and students are responsible for knowing the latest developments. For classes that ARE NOT online, students should be prepared to switch to a 100% online format if health circumstances change.

Required Materials

Fundamentals of Futures and Options Markets by John C. Hull, 9th Edition, Prentice Hall, 2016.

The 8th edition will also work <http://www-2.rotman.utoronto.ca/~hull/ifom/>

Financial Calculator - HP12c

Bloomberg Account

ON RESERVE (BKM): Essentials of Investment by Bodie, Kane and Marcus, 5th edition, McGraw Hill, 2004...and...Options as a Strategic Investment by McMillian.

Course Requirements

Grading

30% Final Exam	A	90-100%
40% Quizzes	B	80-89%
30% Assignments & Pop Quizzes	C	70-79%
	D	60-69%
	F	0-59%

Pluses and minuses are assigned at the instructor's discretion, based on participation, preparation, attendance and score within each range.

Assignments & Pop Quizzes

Assignment details will only be provided in class. Students must submit the assignments as instructed in class or credit will not be given. If students do not understand the assignment, they are responsible for asking the instructor for clarification when the assignment is reviewed in class. Every student must select a DIFFERENT security. Directions on doing this will be provided.

Pop quizzes over the readings may be given without notice by the instructor. Students should complete the assigned readings each night in preparation for the lecture and possible questions. Students who miss class without a pre-authorized university absence may not make up the missed pop quiz.

Bloomberg Use

Almost every assignment will require use of the Bloomberg terminal, submission of screen shots and other data. Since the Finance Lab has limited hours, students are responsible for planning their assignments accordingly. All students will be required to complete the Bloomberg Market Essentials certification program.

Quizzes / Exams

The exams are designed to evaluate the student's comprehension of material rather than just memorization. Questions may include short answer/essay, as well as problems. On exams, you will be responsible for all of the assigned readings.

If you must miss an examination, you must let me know about this prior to the exam. It will be solely at the instructor's discretion whether you may take a make-up exam and under what terms.

Students will not be allowed to enter the classroom late, other than on days of scheduled exams. Show up ON TIME.

FIN 410 - Fall 2021

Tentative Schedule (subject to change at the instructor's discretion)

Date	Topic	Reading	Assignment	Slides
30-Aug	Review Course	Ch 1, Weblink 1 & 2		Set 1
1-Sep	Options overview	BKM - 14.1, 14.3	Register for Bloomberg & send me note	Set 2
3-Sep	Futures overview	Ch - 2 BKM - 16.1, 16.2, 16.5		Set 3
6-Sep	NO CLASS			
8-Sep	Commodity futures	WebLink 3	Chart one call and one put for an option	Set 4
10-Sep	Futures hedging strategies	Ch 3		Set 5
13-Sep	Futures hedging strategies	Weblink 4	Access Bloomberg certificaiton videos	Set 6
15-Sep	Review			
17-Sep	Quiz			
20-Sep	Interest, Forward and Futures Rates	Ch 4		Set 7
22-Sep	Duration	various text pages See index		Set 8
24-Sep	Financial futures		Compute forward rates for a yield curve	Set 9
27-Sep	Financial futures	Ch 5		Set 10
29-Sep	Financial futures	Ch 6		Set 11
1-Oct	Financial futures	Weblink 5	Compute CTD for two T-bonds using the Delivery Spot Price method	Set 11
4-Oct	Review			
6-Oct	Quiz			
8-Oct	Hedge Ratios	Class notes		Set 12
11-Oct	Interest Rate Swaps	Ch 7		Set 13
13-Oct	Currency Swaps	Weblink 6		Set 13
15-Oct	SWAP Quiz			
18-Oct	NO CLASS			

20-Oct	Credit Default SWAPS	Ch 23	Bring an article to class on Credit Default Swaps & Discuss in class	
22-Oct	Foreign exchange	Ch 3 thru 7		Set 14
25-Oct	Foreign exchange	Ch 3 thru 7		Set 14
27-Oct	Option markets	Ch 9		Set 15
29-Oct	Option Pricing	McMillan Ch 1 (on reserve)	Bloomberg Certification Due	Set 16
1-Nov	Option Pricing	Ch 10	Option Pricing Assignment - Calculate historical volatility, implied volatility, call price, and probability of profit.	Set 16
3-Nov	Option Volatility	Ch 13 & Weblink 7		Set 17
5-Nov	Option pricing	Ch 12		Set 18
8-Nov	Review			
10-Nov	Quiz			
12-Nov	Option strategies	Ch 11, McMillan appendix A, B, C (on reserve)		Set 19
15-Nov	Futures options	Ch 16		Set 20
17-Nov	The Greeks	Ch 17	Calculate the greeks for the option used in prior homework	Set 21
19-Nov	Volatility Smiles	Ch 19		Set 22
22-Nov	NO CLASS			
24-Nov	NO CLASS			
26-Nov	NO CLASS			
29-Nov	Mortgage Meltdown	Ch 8		
1-Dec	Mortgage backed securities	Ch 22, Weblink 8 & 9		Set 23
3-Dec	NO CLASS			
6-Dec	VaR	Ch 20	Calculate the 10 day, 99% level VaR for \$1mil investment	Set 24
8-Dec	Review			
10-Dec	Catch up or no class			
Finals WK	Final Exam			