




Derivative Securities/Options FIN480

FIN480B(CRN: 48697), MBA628B(CRN: 48698)

Spring 2019 (Lecture:1/14/2019 – 5/4/2019)

Instructor:	Paul Yan
Contact Information:	Email: yany@canisius.edu Phone: (716) 888-2604 Office: CT308
Lecture Hours/Location:	MW: 4:00pm-5:20pm @ OM119 (a computer lab)
Office Hours/Location:	W: 1:30pm-3:30pm or by appointment @ CT308
Prerequisites:	FIN312 or FIN414 or equivalent courses
Textbook:	Fundamentals of Futures and Options Markets (9th Edition) by John Hull, ISBN-13: 978-0134083247, ISBN-10: 9780134083247
Websites:	https://d2l.canisius.edu/d2l/home (for syllabus, HW, readings, etc.) http://canisius.edu/~yany/excel (for learning Excel)
QR codes	
Course Description:	This course is designed to introduce finance students to the option pricing which is a great success story of applying scientific methods to business. Students would learn the basic concepts, such as continuous compounding, call, put, famous Black-Scholes-Merton option model, Binomial model and many trading strategies involving underlying securities, options, futures or Swap. In addition, students learn how to use real-world options data to conduct various investigations. The applications of options (futures, Swap) to risk-management will be discussed as well.
Computational Tool:	Excel
R Software:	R is free software which could be downloaded at http://r-project.org
One line R command	<code>source("http://datayy.com/abc.R")</code> Note #1: I will give another location during the first lecture. Note #2: For this course, I will NOT teach R. Literally, students are responsible for the above line only.
Academic Integrity:	Students are expected to know and understand college policies with regard to Academic Integrity Code . Violations of academic integrity will be prosecuted fully. Please note that you are responsible for reporting any instances where other students have violated these policies. Failure to do

	so will result in penalties as well. If you have any questions about this policy, please see the instructor.																
Attendance Policy:	Attending classes regularly is required. Before-class preparation and in-class participation is an integral part of this course. Students are strongly encouraged to participate in class discussions and ask questions. Students are encouraged to discuss current events relevant to this course or their own experiences. Homework problems are regularly assigned.																
Academic and Accessibility Support Services:	The GRIFF Center for Academic Engagement provides comprehensive programs, tutoring services, and resources to support student academic and career success. If you would like to learn more about academic support, please stop in Old Main 013 or call 716-888-2170. Visit the GRIFF Center webpage at: http://www.canisius.edu/griff-center/ . Accessibility Support (716-888-2170), which is located in the Griff Center for Academic Engagement (OM 013), is responsible for arranging appropriate academic accommodations for students with documented disabilities. If anyone in this course falls into this category, please contact Accessibility Support so that an appropriate course of action may be determined. For additional information, see http://www.canisius.edu/dss/																
Course Level Learning Goals:	<ul style="list-style-type: none"> • Learn basic theory related to options, forwards, futures and Swaps • Understand various trading strategies involving underlying stock, long and short futures, call and put options • Learn how to hedge different types of risk, such as foreign exchange, oil price and short-term stock market meltdown. • Learn the principals and basic techniques of risk management involving derivatives 																
College, Program and Major Learning Goals:	This course is designed to help students achieve one or more College Core, Business Program and/or Major level learning goals and objectives. You can see the specific College, Program or Major level learning goals and objectives associated with the course from this page on the College website: http://bit.ly/bcoreLG																
Grade Evaluation:	<table> <tr> <td>HW</td> <td>20%</td> </tr> <tr> <td>Midterm</td> <td>20%</td> </tr> <tr> <td>Final exam</td> <td>20%</td> </tr> <tr> <td>Term projects</td> <td>20%</td> </tr> <tr> <td>Presentation</td> <td>10%</td> </tr> <tr> <td>Class participation</td> <td>10%</td> </tr> <tr> <td colspan="2">-----</td> </tr> <tr> <td>Total</td> <td>100%</td> </tr> </table>	HW	20%	Midterm	20%	Final exam	20%	Term projects	20%	Presentation	10%	Class participation	10%	-----		Total	100%
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Laptop policy:	Students are encouraged to bring a laptop to the class. However, it should be used for class related activities only.																
Course Schedule:	For the detailed schedule, see below. I reserve the right to change the course schedule throughout the semester. Changes to the schedule will be announced in class or via email.																

Term paper

Each group could have up to three members. A topic should be closely associated with this course. Since there have been some huge losses in derivatives, all of us could learn many lessons from those cases. Each group could choose one of those cases to write a short report (maximum page limit: 15, double

space, font of 12). I expect to see three parts: 1) what happened (in chronological order), 2) what went wrong, 3) lessons learnt from your specific case. Before start your project, please contact me for an approval of the topic (case) since there should be no duplicate cases among groups. A few examples are given below.

- i) Long-Term Capital Management (loss: \$4B)
- ii) Barings (loss: \$1B)
- iii) Orange County (loss: \$2B)
- iv) Shell (loss: \$1B)

TENTATIVE CLASS SCHEDULE (SUBJECT TO CHANGE)

Week	Date	Contents of the lecture	Files
1	1/14 1/16	Self intro. & syllabus discussion Chapter 1: Introduction & R installation	lecture01.ppt week01.doc
2	1/21 1/23	Martin Luther King Day - No Classes Chapter 2: Futures markets and central counterparties	PPT,DOC and TXT
3	1/28 1/30	Chapter 2 (continued) Chapter 3: Hedging strategies using futures	PPT and TXT
4	2/4 2/6	Chapter 3 (continued) Chapter 4: Interest rates	PPT and TXT
5	2/11 2/13	Chapter 4 (continued) Chapter 5: Forward & Futures Prices	PPT and TXT
6	2/18 2/20	President's Day Break - No Classes Chapter 5 (continued)	PPT and TXT
7	2/25 2/27	Chapter 6: Interest rate futures Chapter 6 (continued)	PPT and TXT
8	3/4 3/6	[before mid-term review] Midterm	PPT and TXT

Week	Date	Contents of the lecture	Files
9	3/11	Chapter 7: Swaps	PPT and TXT
	3/13	Chapter 7 (continued)	
	3/18	Spring break	
	3/20	Spring break	
10	3/25	Chapter 9: Mechanics of options markets	PPT and TXT
	3/27	Chapter 9 (continued)	
11	4/1	Chapter 10 properties of stock and options	PPT and TXT
	4/3	Chapter 10 (continued)	
12	4/8	Chapter 11: Trading Strategies involving options	
	4/19	Chapter 11 (continued)	
13	4/15	Chapter 12: Binomial Tree	PPT and TXT
	4/17	Easter Break - No Classes	
	4/19	Easter Break - No Classes	
14	4/22	Chapter 13: Black-Scholes-Merton model	PPT and TXT
	4/24	Chapter 13 (continued)	
		Student presentation	
15	5/1	Student presentation	PPT and TXT
	TBA	Final exam	