

課程大綱

Program Syllabus

系所 Department	企業管理研究所 / Graduate Institute of Business Administration		必選修 compulsory/elective	選修 elective
課程名稱 (含英文名稱) Course title	衍生性金融商品 Financial Derivatives		學分數 Credit(s)	3
學年/學期 academic year/Semester	109-2 學期 Spring semester 2021		上課地點 Classroom	管院 427
講授教師 Instructor	宋豪漳 Hao-Chang Sung		上課時間 Time	Wednesday, 13:10AM~16:00PM
教師辦公室&諮詢時間 Instructor office number & office hour	管院 421 Thursday, 14:30-16:00 PM	教師聯絡資訊 Instructor Contact	Phone: TBA Email: frg4125@hotmail.com	
助教 Teaching assistant	TBA	助教聯絡資訊 TA contact	Email: TBA	
先修課程 Pre-requisite courses	財務管理 Financial Management			
課程目標 Course Objective	<div>1. This course introduces the derivatives market basics, including forwards, futures, and options markets.</div> <div>2. The fundamental differences between valuing and investing in derivatives versus valuing and investing in primary securities.</div> <div>3. We will also introduce the concepts of replication, such as hedging, relative valuation, and arbitrage trading.<div>i. Put-call parity: (risk-neutral valuation, no-arbitrage condition)</div><div>ii. The stochastic process (Brownian motion) to characterize the process of stock return will be introduced.</div><div>iii. Replicated methods for no-arbitrage option pricing.</div></div> <div>4. Profit and loss attribution and risk management by option position will be illustrated as well.</div>			
AACSB 學習品質保證學習目標 Assurance of Learning (AOL) Learning goals				
*請先選填為主要或次要學習目標(Major or minor learning goal)，再選擇對應之學習目標				
主要學習目標 Major learning goal	主要學習目標 Major learning goal	次要學習目標 Minor learning goal		
目標 1：創新思考 LG1:Creative Thinking	目標 4：全球視野 LG4:Global Perspectives	目標 2：溝通能力 LG2:Communication Skills		

教材 Teaching materials	Handouts with references to material will be handed out every week.				
網址 Course website	TBA				
教科書/參考書 Textbooks/Reference	Textbooks: 1. Hull, John, (2018). Options, Futures, and Other Derivatives, Global Edition. Pearson. (雙葉書廊) Reference: 1. Allen Jan Baird, (1993). <i>Options Market Making</i> , Wiley. 2. Paul Wilmott, (2007). <i>Paul Wilmott Introduces Quantitative Finance</i> , 2nd Edition. Wiley.				
評量方式(請填百分比) Assessment	課堂參與 Participation	10%	個案討論 Case study	%	
	作業 Homework	20%	專題 Project	%	
	小考 Quiz	%	其他 1 other ()	%	
	期中考 Midterm	30%	其他 2 other ()	%	
	期末考 Final	40%	其他 3 other ()	%	
	報告 Presentation	%	其他 4 other ()	%	
其他說明 Other description	1. 研究生、開放大三、大四上修 The course will be offered for graduate students and undergraduate (junior and senior). 2. Teaching Approach(es): 講述 Lecture: 80% 課堂討論 Class Discussion: 10% 小組活動 Group Activity: 10% 3. Course Contents: i. Class Participation/Attendance (10%) Class attendance and participation are important. Students need to send an e-mail for their excuse for absences in advance. (In case of an emergency or illness, they are allowed to send me an e-mail after their absence) ii. Homework Assignments (20%) Homework assignments will be provided once a week or once two weeks. Students are required to hand in before the deadline. iii. Midterm Exam (30%) There will be one midterm exam for this course. The midterm exam will consist of 2 to 3 simple answer questions and 2 to 3 essay questions. Each exam grading is based on a 100-point basis. The Final iv. Final Exam (40%) There will be one final exam for this course. The final exam will consist of 2 to 3				

	essay questions and 2 to 3 analyses and calculations problems, which involve some calculation process with calculators' help. Each exam grading is based on a 100-point basis.
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課程規劃表 Course Schedule

週次 week	日期 Date	內容 Description	教材章節 Textbook	其他說明 Remark
1.	2/24	a. Course Overview b. Introduction: Forward and Futures, Determinations of Forward and Futures Prices (1)	Ch.1, 2, 3,5 of Hull (2018)	
2.	3/3	Introduction: Forward and Futures, Determinations of Forward and Futures Prices (2)	Ch.1, 2, 3,5 of Hull (2018)	
3.	3/10	Mechanics of options markets (1)	Ch.10 of Hull (2018)	
4.	3/17	Mechanics of options markets (2)	Ch.10 of Hull (2018)	
5.	3/24	Trading Strategies Involving Options (1)	Ch.12 of Hull (2018)	
6.	3/31	Trading Strategies Involving Options (2)	Ch.12 of Hull (2018)	
7.	4/7	Properties of Stock Options (1)	Ch.11 of Hull (2018)	
8.	4/14	a. Properties of Stock Options (2) b. Summary	Ch.11 of Hull (2018)	
9.	4/21	Midterm Exam		
10.	4/28	Binomial Trees (1)	Ch.13 of Hull (2018)	
11.	5/5	Binomial Trees (2)	Ch.13 of Hull (2018)	
12.	5/12	Wiener Processes and Ito's Lemma (1)	Ch.14 of Hull (2018)	
13.	5/19	Wiener Processes and Ito's Lemma (2)	Ch.14 of Hull (2018)	
14.	5/26	The Black-Scholes-Merton Model (1)	Ch.15 of Hull (2018)	
15.	6/2	a. The Black-Scholes-Merton Model (2) b. Futures Options (1)	Ch.15 & Ch.18 of Hull (2018)	
16.	6/9	a. Futures Options (2) b. Profit and Loss Attribution and Risk Management: The Greek Letters (1)	Ch.18 & Ch. 19 of Hull (2018)	

17.	6/16	a. Profit and Loss Attribution and Risk Management: The Greek Letters (2) b. Summary	Ch. 19 of Hull (2018)	
18.	6/23	Final Exam		