

管院學士班課程大綱

BA/BBA Program Syllabus

2023.09.20修訂

系所Department	經濟學系 Economics	必選修 compulsory/elective	選修Elective
課程名稱 Course title	Game Theory I	學分數Credit(s)	3
課號 Course Code	5103365 01	全英文授課English Taught (EMI)	是(Yes)
學年/學期academic year/Semester	115-1 Fall Semester 2026	上課地點Classroom	School of Management 322R
講授教師 Instructor	Ho Pan Shum (沈豪斌)	上課時間 Time	Tuesday 10:10– 13:00
教師辦公室&諮詢時間 Instructor office & office hour	In Person: Tuesday 08:00-10:00 @ School of Management Room 316; Online: Check “Important Information”.	教師聯絡資訊 Instructor Contact	Phone: 05-2720411 ext.34168 Email: ch@hopanshum.com
助教 Teaching Assistant	Lucas Chen (陳民軒)	助教 聯絡資訊 TA contact	Email: N/A (Please contact instructor)
先修課程 Pre-requisite courses	Calculus I, Principles of Economics I.		
學習目標 Learning Objective	As a first course in game theory, students, after completing this course, are expected to be capable to: 1. Identify competitive and cooperative interdependences in decision making; and 2. Apply game-theoretic concepts and models to strategic interaction problems; and 3. Make recommendations on agents behavior when facing such problems; and 4. Think critically and reflect on internal or external thoughts from various sources, including journal articles, books, and newspapers; and 5. Learn independently through the exploration of academic resources and comprehension of unprocessed materials; and 6. Deploy modern technologies needed for future academic and career success.		
課程概述 Course Descriptions	Game theory provides a mathematical framework to analyze strategic interactions. This allows us to predict individual behavior when someone's choices and payoffs depend on the actions of other agents. This creates the potential for conflict and cooperation which must be addressed by sophisticated decision-making processes. This course will make you familiar with the main theoretical aspects of game theory, developing the necessary terminology and rules in a precise and rigorous manner. Accordingly, you should feel comfortable with some degree of mathematical formalism. This adds clarity to the way you think while also helping prepare those interested in more advanced studies. The applications of game theory extend beyond economics and can be found in such disparate fields as political science, biology and law. Examples of this include the interactions between imperfectly competitive firms, the dynamics of auctions, bargaining situations, electoral competition, arms races and so on. Many of these problems can be framed in terms of simultaneous and sequential move games, with and without complete information. A goal of the course is that by the end of the semester you will have not just grasped the substance of these models, but you will also have improved your ability to think strategically in everyday life.		

對應AOL職能素養(AOL Competency)				
職能素養3(Competency 3): 問題解決能力Problem Solving Skills		職能素養1(Competency 1): 成本效益分析Cost-Benefit Analysis		
課程類別 Course Attributes	☐ 人文關懷課程(Humanities Caring) ☐ 競賽專題課程(Competition) ☒ 問題導向課程(Problem-solving) ☐ 專題導向課程(Project-based) ☐ 實作課程(Practice-based) ☐ 總整課程(Capstone)			
教材編選 Teaching materials	☐ 自製簡報(self-made PPTs) ☒ 課程講義(Teaching Notes) ☐ 自編教科書(self-made textbooks) ☐ 教學程式(programming) ☐ 自製教學影片(self-made video) ☐ 其他(Others)			
教學資源 Teaching Resources	☒ 課程網站(Website) ☐ 實習網站(Intern Web) ☐ 教材電子檔供下載(Downloadable Files)			
教科書/參考書 Textbooks/References	Watson, Joel. Strategy: An Introduction to Game Theory. 3rd ed., W.W. Norton & Company, 2013. [Main]			
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	Students must read the document “Important Information” on top of this syllabus, which can be found on the course website. Assessment methods and course policies could be found in the same document.			

課程規劃表 Course Schedule

週次 week	日期(週一) Date(Monday)*	內容 Description	教材章節 Textbook	其他說明 Remark
1.	9/7	Course Introduction; Syllabus Rundown; Backward Induction	15	
2.	9/14	Strategies and the Normal Form; Beliefs, Mixed Strategies, and Expected Payoffs	3, 4	
3.	9/21	Logic	-	
4.	9/28	Dominance and Best Responses	6	HW1
5.	10/5	Nash Equilibrium	9	
6.	10/12	Oligopoly; Location and Partnership	10, 8	HW2
7.	10/19	Mid-term Exam I		
8.	10/26	Rationalizability and Iterated Dominance	7	
9.	11/2	Subgame Perfection	14 ,15	HW3
10.	11/9	Analysis of Simple Bargaining Game	16	
11.	11/16	Rubinstein's Bargaining	16	HW4
12.	11/23	Mid-term Exam II		
13.	11/30	Principal-Agent Problem	25	
14.	12/7	Revelation Principle	-	HW5
15.	12/14	Gale-Shapley's Matching; Arrow's Impossibility	-	
16.	12/21	Christmas Holidays		HW6
17.	12/28	<i>Problems Workshop (Non-mandatory)</i>		
18.	1/4	Final Exam		

*Class is on Tuesday; for example, the first class is on the 8th of September.