

國立中山大學 103學年度第1學期 課程教學大綱

中文名稱	賽局理論（二）			課號	ECON624
英文名稱	TOPICS IN GAME THEORY(II)				
課程類別	講授類	必選修	選修	系所	經濟學研究所碩士班
授課教師	童永年			學分	3

課程大綱

- 1.Repeated games
- 2.Complexity considerations in repeated games
- 3.Arrow's impossibility theorem
- 4.Mechanism design
- 5.Information

課程目標

對賽局理論的主要內容和研究方法作系統的討論和分析，並且引導學生將所習得的理論應用於實際經濟現象的分析

授課方式

講授

評分方式〔評分標準及比例〕等第制單科成績對照表

- 1.Midterm exam：30%
- 2.Presentation I：30%
- 3.Presentation II：30%
- 4.Class participation：10%

參考書/教科書/閱讀文獻〔請遵守智慧財產權觀念，不可非法影印。教師所提供之教材供學生本人自修學習使用,不得散播及做為商業用途〕

序號	作者	書名	出版社	出版年	出版地	ISBN#
1	Fudenberg D.and Tirole J.	Game Theory	The MIT Press	1991	Cambridge, MA, USA	
2	Mas-Colell Andrew, Whinston Michael D., and Green Jerry R.	Microeconomic Theory	Oxford University Press	1995	NY, NY, USA	
3	Osborne, Martin J. and Rubinstein, A.	A Course in Game Theory	The MIT Press	1994	Cambridge, MA, USA	

每週課程內容及預計進度

週次	日期	授課內容及主題
1	2014/09/15~2014/09/21	Introduction of the Strategic form (Normal form); Mixed strategy; Existence of the Nash equilibrium; Strictly (and weakly) dominated strategy.
2	2014/09/22~2014/09/28	Revisit the dominance; Use the Cournot model as an example; Review the first order difference equation; Correlated equilibrium.
3	2014/09/29~2014/10/05	Revolutionary equilibrium; Games in extensive form; Define what a subgame is and SPE; Use the predatory game to explain the difference between N.E. and SPE.
4	2014/10/06~2014/10/12	Kuhn's theorem; Use the backward induction to solve the chain-store game and centipede game; Why weakly dominated strategy cannot be eliminated by SPE; Forward induction; Bargaining game: Ultimatum game; Alternating offer bargaining game.
5	2014/10/13~2014/10/19	Bayesian Nash equilibrium; Two examples about the information; Cournot example; Introduction of the auction model.
6	2014/10/20~2014/10/26	First price sealed-bid auction; Second price sealed-bid auction; Revenue equivalence principle; Common value auction; Introduction of the repeated game.
7	2014/10/27~2014/11/02	Midterm
8	2014/11/03~2014/11/09	Payoff criteria; Define a infinitely repeated game; Nash equilibrium in the repeated game; Grim-trigger strategy and tit-for-tat strategy; Subgame perfect equilibrium of an infinitely repeated game; Introduction of the folk theorem.
9	2014/11/10~2014/11/16	The folk theorem (Nash equilibrium and Friedman's SPE).
10	2014/11/17~2014/11/23	The folk theorem (Fudenberg and Maskin); The construction of a proper equilibrium strategy; One-deviation property; Complexity considerations in Repeated Game.
11	2014/11/24~2014/11/30	Presentation I
12	2014/12/01~2014/12/07	The definition of the extensive game of imperfect information; The pure strategy of a player in an extensive game; Perfect and imperfect recall; Mixed and behavioral strategy.
13	2014/12/08~2014/12/14	The consistency of the pure strategy; The outcome of the strategies; Outcome-equivalence for the mixed and behavioral strategies.
14	2014/12/15~2014/12/21	The Nash equilibrium in mixed strategies of an extensive game; Strategies and beliefs of the sequential equilibrium; Sequential equilibrium: assessment; sequentially rational; consistency.
15	2014/12/22~2014/12/28	Selten's horse; The principle of coalescing of moves; The example that the principle does not hold for the sequential equilibrium concept.
16	2014/12/29~2015/01/04	Games with observable actions: perfect Bayesian equilibrium; Spence's education model; Modeling reputation.
17	2015/01/05~2015/01/11	Continuing on modeling reputation; Refinements of the sequential equilibrium; Signaling game (beer and quiche).
18	2015/01/12~2015/01/18	Presentation II
課業討論時間		
時段1: 時間：星期二16:00-18:00 地點：社4032 時段2： 時間：星期三10:00-12:00 地點：社4032		
系所學生專業能力/全校學生基本素養與核心能力		

系所學生專業能力/全校學生基本素養與核心能力	課堂活動與評量方式									
	本課程欲培養之能力與素養	紙筆考試或測驗	課堂討論(含案個討論)	個人書面報告、作業、作品、實驗	群組書面報告、作業、作品、實驗	個人口頭報告	群組口頭報告	課程規畫之校外參訪及實習	證照/檢定	參與課程規畫之校外活動及競賽
※系所所學生專業能力										
1.經濟分析。	V	V				V				
2.專業技術。										
3.國際視野與國際移動能力。										
4.守法紀與積極進取的態度。										
5.問題解決能力。	V	V				V				
6.職涯發展的瞭解及規劃。										
7.專業能力與職涯發展。										
※全校學生基本素養與核心能力										
1.表達與溝通能力。	V					V				
2.探究與批判思考能力。	V	V				V				
3.終身學習能力。										
4.倫理與社會責任。										
5.美感品味。										
6.創造力。										
7.全球視野。										
8.合作與領導能力。										
9.山海胸襟與自然情懷。										