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國立東華大學

課　　綱　Course Outline

經濟學系博士班一般組

中文課程名稱 Course Name in Chinese	賽局理論與經濟應用(一)				
英文課程名稱 Course Name in English	Game Theory with Economic Applications (I)				
科目代碼 Course Code	EC__73100	班 別 Degree	博士班 Ph.D.		
修別 Type	選修 Elective	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite	none				

課程目標
Course Objectives

賽局在社會科學中之應用相當廣泛，舉凡政治、經濟、產業、管理等各學界皆有運用賽局之範例，本課程將理論與應用並重，強調賽局理論之邏輯性思維而非艱澀的數學驗證，以培養學生應用賽局理論來設計經濟模型及解釋經濟問題之能力。

系教育目標
Dept.'s Education Objectives

1	培育具獨立學術研究與專業能力之優秀經濟人才。 Foster potential talents with professional knowledge and empirical skills in economics.

	系專業能力 Basic Learning Outcomes	課程目標與系專業能力相關性 Correlation between Course Objectives and Dept.'s Education Objectives
A	數理分析能力：通曉經濟學的高階理論技巧，應用數學與賽局解決經濟議題的能力。 Mathematical analysis skills: Mastering in advanced application of mathematical theories and game theory in analyzing economic issues.	○
B	實證經濟分析能力：通曉經濟學的高階實證技巧，善用資訊科技進行資訊蒐集、資料統計與計量分析。 Empirical analysis skills: Mastering in advanced application of statistics and econometrics in data collection and examination	
C	微觀經濟之闡釋能力：通曉高階個體經濟學相關的理論與應用。 Microeconomic perspective: Thorough understanding of advanced microeconomic theories and relevant application	○

D	宏觀經濟之闡釋能力：通曉高階總體經濟學相關的理論與應用。 Macroeconomic perspective: Thorough understanding of advanced macroeconomic theories and relevant application	
E	自我調整適應社會之能力：具備適應現代社會的學養以及就業能力。 Employment opportunities: capabilities of working on important policy and decision challenges in business and government	
F	溝通表達能力：思路清晰，有能力與人溝通並撰寫高階專業研究報告。 Communication skills: Having a clear mind and profound ability in presenting advanced professional academic research	

圖示說明Illustration ：● 高度相關 Highly correlated ○中度相關 Moderately correlated

課程大綱
Course Outline

1、Introduction
（1）Game form, definition and solution concepts
2、Complete Information:
（1）Strategic form games
a、Dominant Strategies and Dominated Strategies
b、Nash equilibrium
c、App. Cournot game
（a）Bertrand game
（2）Extensive form games
a、Dynamic games, backward induction and Nash equilibrium
b、Subgame perfection
c、Sequential equilibria
d、Bargaining games (Nash, Ariel Rubinstein)
e、App. Stackelberg game
（a）Centipede game
（b）Entry deterrence game
（3）Repeated games
a、Finitely repeated prisoners' dilemma
b、Folk theorem
c、Reputation
d、Signaling
e、App.
（4）Incomplete information:
a、Bayesian Nash equilibrium
b、Perfect Bayesian equilibrium
c、Bargaining with private information
d、Sequential equilibrium
e、Revelation Principle
f、App.
（5）Implementation Theory
a、Nash implementation
b、Subgame perfect implementation
c、Mechanism design
d、App.

資源需求評估（師資專長之聘任、儀器設備的配合・・・等）
Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)

課程要求和教學方式之建議
Course Requirements and Suggested Teaching Methods

本課程以講授方式進行，輔以課堂討論。

其他 Miscellaneous