國立東華大學

課　綱　Course Outline

經濟學系碩士班一般組

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	IIE_57900	班　別 Degree		碩士班 Master's	
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
近年來經濟分析大量引用賽局理論，研究生必須充分掌握此一工具，方有能力學習與理解新的經濟理論，為獨立的研究能力奠定基礎。

系教育目標 Dept.'s Education Objectives	
1	培育具學術深造潛力及實務發展能力的優秀經濟人才。 Educate postgraduate students with professional knowledge and empirical skills for further academic research.

	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：通曉經濟學的進階理論技巧，應用數學與賽局解決經濟議題的能力。 Mathematical analysis skills: Mastering in intermediate application of mathematical theories and game theory in analyzing economic issues.	○
B	實證經濟分析能力：通曉經濟學的進階實證技巧，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 intermediate application of statistics and econometrics in data collection and examination	
C	微觀經濟之闡釋能力：通曉進階個體經濟學相關的理論與應用。 Microeconomic perspective: Thorough understanding of intermediate microeconomic theories and relevant application	○

D	宏觀經濟之闡釋能力：通曉進階總體經濟學相關的理論與應用 Macroeconomic perspective: Thorough understanding of intermediate 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進階專業研究報告。 Communication skills: Having a clear mind and capability in writing an intermediate professional academic report	

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