

賽局理論 (Games Theory)

by Dr. J. Teng

課本:

Dixit, A and Skeath, S. (1999). Games of Strategy, W. W. Norton & Company.

中譯本—譯者：藍兆杰，徐偉傑，陳怡君. (2002). 弘智文化事業有限公司.

Morrow, J. D. (1994). Game theory for political scientists, Princeton University Press.

課程目的:

賽局理論在現今社會科學中有着非常廣泛的應用，是不可或缺的主要理論工具。本課程給與學生基本的賽局理論訓練，以便從事政治與其他領域的策略分析和進行政治學型式理論研究。

作業與考試:

每週作業

期中考試

期末考試.

課程大綱:

Introduction.

Definition and components of a game:

Player, type (payoff), action/strategy, structure (game tree).

Nature of strategic interactions

Pre-Nash Games Theory.

Iterative dominate strategy (don't play dumb)

Rationalisable strategy

MasColllel & Green

Normative forms games

Examples

Solving for Nash equilibrium by elimination of dominated strategy, Dominant Strategy

Nash equilibrium-pure strategy, Formal Definition

Examples of NE in Social Sciences

Neo-liberal institutionalism: infinitely repeated PD

Relative gains argument and zero sum game

Mixed strategy.

Nash equilibrium-mixed strategy

Game tree and extensive forms.

Extensive form games

Sequential Games.

Subgame and subgame perfect NE.

Sequential Games of Complete and Perfect Information: Backward Induction

Repeated games and Folk Theorem. Repeated Games

Imperfect Information.

Sequential Games of Complete but Imperfect information

Bayesian NE.

Bayesian games and Bayesian equilibrium

Examples of Bayesian NE: Mechanism design, Moral hazard

Examples of Bayesian NE: Adverse selection.

Sequential Bayesian Games, Perfect Bayesian NE, Signaling Games

Student Survey Form

Name

Class Year

Major

Research Interests and Thesis

Mathematics, Statistic and Economics Courses Taken

Objective of Participating in the Course