

Kainan University Department of International Business

Syllabus for Fall 2007

semester (fall/spring) year

Course Code No.	Course Title	Instructor	Subject	Level of Course	Credits	Hours per Week
1220M0290	賽局理論	Leon Yen 顏世緯	Elective	Graduate	3	3
	Game Theory	Course Prerequisites	Multivariate Calculus, Linear Algebra, Intermediate Microeconomic Theory.			
Teaching Goals and Content	This is an introductory course in game theory. Students will study the four main types of games: static games of complete information, dynamic games of complete information, static games of incomplete information, and dynamic games of incomplete information. Emphasis will be placed on economic and business applications via applications in industrial organization.					
Teaching Methods	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> practical training <input type="checkbox"/> discussion <input type="checkbox"/> question-and-answer <input type="checkbox"/> other (details _____)					
Grading and Evaluation Criteria	Midterm 30 % Final 30 % Papers 40% (2 x 20%)					
Textbooks	(author, title, edition, publisher, place of publication, year of publication, pages covered) Required Reading: 1. Carlton and Perloff. <i>Modern Industrial Organization</i> . 雙葉書局. 2. Gibbons. <i>A Primer in Game Theory</i> . 新陸書局. Math Review 3. Alpha C. Chiang. <i>Fundamental Methods of Mathematical Economics</i> . 雙葉. Suggested Reading: 4. Dixit and Skeath. <i>Game of Strategy (策略的賽局)</i> . 弘智文化. 5. Rasmusen. <i>Games & Information (賽局理論與訊息經濟)</i> . 五南文化. Advanced Reading 6. Drew Fudenberg. <i>Game Theory</i> . The MIT Press. 7. Jean Tirole, <i>The Theory of Industrial Organization</i> . The MIT Press.					

Course Description (including outline and course schedule):**Review of Basic Math and Economic Concepts**

Week 1 Nonlinear Programming, Consumer Max, Firm Profit Max (Handout)

Week 2 Perfectly Competitive Firm, Monopoly (Carlton: C3 - C4, Handout)

Static Games of Complete Information

Week 3 Basic Theory: Normal-Form Games and Nash Equilibrium (Gibbons: 1.1-1.2)

Week 4 Mixed Strategies and Existence of Equilibrium (Gibbons: 1.3)
Classic Games (Handout)

Week 5 Oligopoly: Cournot Model and Bertrand Model (Carlton: p.159-180, Appendix 6A)

Week 6 Monopolistic Competition, Homogenous Goods (Carlton: Chapter 7)

Week 7 Monopolistic Competition, Differentiated Products (Carlton: Chapter 7)

Week 8 Midterm, Paper 1 Due*Dynamic Games of Complete Information*

Week 9 Backwards Induction and Subgame Perfect Nash Equilibrium (Gibbons: 2.1-2.2)

Week 10 Stackelberg Model of Duopoly (Carlton: p.176, Appendix 6A)

Week 11 Repeated Games, Infinitely Repeated Games (Gibbons:2.3-2.4)(Carlton: p.180-190)

Week 12 Cartels (Carlton: Chapter 5)

Week 13 Strategic Behavior (Carlton: Chapter 11)

Week 14 Vertical Integration and Restrictions, Double Monopoly (Carlton: C12)

Vertical Arrangements Between Firms: RPM, ET, ED (Carlton: p.668-674)

Static Games of Incomplete Information

Week 15 Bayesian Updating, Revelation Principle (Gibbons: 3)

Week 16 Auction Design, Market for Lemons

Non-linear Pricing, Tie-in Sales (Carlton: C10)

Dynamic Games of Incomplete Information

Week 17 Signaling Games (Gibbons: 4)

Week 18 Final Exam, Paper 2 Due

Instructions:

- Teachers should fill out this form before the semester begins. After it has been verified by the curriculum committee, the original should be given to the office of curriculum planning and a copy to the head of the department to which the course belongs. In addition, the teacher should explain this syllabus to students at the beginning of a semester.
- This form was approved by the curriculum committee on April 23, 2002.

樂康周主任

signature of the convener of the curriculum committee

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signature of the teacher

課務組辦事員 郭惠珊

課務組
96.9.12
張文華