Department of Industrial and Information Management

R3306  Strategic Game Theory (策略競局)

Fall 2012 (101 學年度第 1 學期)

限在職專班修習

Instructor:

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Class Hours: Saturday 9:10 AM ~ 12:00 PM
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Course Description:

This course aims to provide a foundation for understanding interactions between people or firms in diverse fields such as economics, business, etc. It will cover basic concepts and techniques for analyzing interactions—games—in the framework of sequential and simultaneous moves, some specific classes of games, and a wide spectrum of applications.

Course Learning Goals:

The objective of this course is to equip students with necessary knowledge to analyze/solve real-world problems in the framework of game theory.

Course Features:

1. **Interaction** among all students during the course will be emphasized. The IRS 即時反饋系統 (如右圖所示) will be used to facilitate students’ interaction.
2. To improve students’ learning, **in-class exercises** will be given and discussed.
3. Students will form groups to **apply game theory** to solving **after-class exercises**, and present the results in class.
4. **Games** will be played in class to illustrate certain game-theoretic concepts.
5. The focus is on **applying game theory** rather than on covering the mathematical details of game theory.

Content Summary:

1. Basic Ideas and Examples
2. How to Think about Strategic Games
3. Games with Sequential Moves
4. Simultaneous-Move Games with Pure Strategies
5. Combining Sequential and Simultaneous Moves
6. Simultaneous-Move Games with Mixed Strategies
7. Uncertainty and Information
8. Strategic Moves
9. The Prisoners’ Dilemma and Repeated Games
10. Collective-Action Games
11. Evolutionary Games
12. Mechanism Design

Textbooks:


Course Requirements:

- Participation in class is important. Rules will be made in the first lecture after thorough discussion and communication. Students who do not obey the rules will be treated differently.
- Homework assignments shall be handed over before the class starts.
- Class supplements will be given on the course Ftp site (to be announced in the first lecture).

Grading Policy/評量方式:

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<th>Homework Assignments</th>
<th>Midterm Exam</th>
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<th>After-class Exercises</th>
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