| 科目ナンバリング | U-LAS06 10020 LE43 | | | | | | |
|---|---|---|---|---|---|---|---|
| 授業科目名<英訳> | Applied Game Theory-E2<br>Applied Game Theory-E2 | | | 担当者所属職名・氏名 | 経済学研究科 特定講師 李　晨 | | |
| 群 | 人文・社会科学科目群 | 分野(分類) | 法・政治・経済(基礎) | | 使用言語 | 英語 | |
| 旧群 | A群 | 単位数 | 2単位 | 週コマ数 | 1コマ | 授業形態 | 講義（対面授業科目） |
| 開講年度・開講期 | 2025・後期 | 曜時限 | 月3/月4 | 配当学年 | 主として1回生 | 対象学生 | 全学向 |

**[授業の概要・目的]**

Game theory is the study of strategic decision-making, where the outcome for each participant depends on their own actions as well as the actions of others. It provides a powerful framework for analyzing a wide range of competitive and cooperative scenarios.

In a complete information game, all players have full knowledge of the rules, strategies, and payoffs of others, allowing for fully informed decisions. In contrast, an incomplete information game involves uncertainty about some aspects of the game, such as the payoffs or strategies of other players, adding an additional layer of complexity to strategic reasoning.

This course will provide standard undergraduate-level knowledge of complete information games and an introduction to incomplete information games. We will cover the basic concepts, model formalization, and key solution concepts such as Nash equilibrium and Bayesian Nash equilibrium.

Throughout the course, we will explore various applications of these concepts in economics, politics, and other real-world scenarios.

**[到達目標]**

・Develop an understanding of the models and solution concepts for both complete and incomplete information games.
・Practice and acquire essential skills to analyze and solve application problems related to complete information games.
・Gain a foundational understanding of the applications of incomplete information games.

**[授業計画と内容]**

The lectures will be organized as follows.

1. Static games of complete information: Normal-form games.
2. Dominance and iterated elimination of strictly dominated strategies.
3. Nash equilibrium: Theory.
4. Nash equilibrium: Applications.
5. Dynamic games of complete and perfect information.
6. Dynamic games of complete and perfect information: Applications.
7. Dynamic games of complete but imperfect information.
8. Dynamic games of complete but imperfect information: Applications.
9. Static games of incomplete information: Bayesian games.
10. Bayesian Nash equilibrium: Theory.
11. Bayesian Nash equilibrium: Applications.
12. Introduction to dynamic games of incomplete information.
13. Introduction to perfect Bayesian equilibrium.

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**Applied Game Theory-E2(2)**

14. Perfect Bayesian equilibrium in signaling games.
(Final examination.)
15. Feedback.

**[履修要件]**

Certain topics will assume a foundational understanding of derivatives, integrals and expectation operation.

**[成績評価の方法・観点]**

Homework (25%)
Class participation (5%)
Final examination (70%)

**[教科書]**

**授業中に指示する**

**[参考書等]**

**（参考書）**
Gibbons, R. 『Game Theory for Applied Economists.』（Princeton University Press, 1992.）ISBN: 1400835887, 9781400835881

**[授業外学修（予習・復習）等]**

Students will be assigned three problem sets as the homework.

**[その他（オフィスアワー等）]**

Office hour by e-mail appointment.