ECON2501-3
Game Theory
Spring 2022

Class: 18:00-20:20 Wednesday; 东中院(Dong Zhong Yuan) 2-106, Minhang Campus

Instructor: 李淑雯 Shuwen Li

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Office hours: 14:30-16:30 Wednesday, Minhang Campus and by appointment

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Course Description

This is a core course for undergraduate students in Economics. This course provides a rigorous introduction to the field of game theory, with both the underlying theory and illustrative examples. It trains students in economic modeling and logic thinking, as well as related methodology in game theory. We will cover topics including simultaneous-move games, sequential-move games, repeated games, games with incomplete information and signaling games.

Prerequisites

Intermediate Microeconomics, Mathematical Analysis/Calculus

Course Objectives

By the end of the course, students should understand the importance of game theory in Economics, be familiar with basic concepts and classical models in game theory and be able to apply these concepts to modeling and analyzing real-world economic and social issues.

Textbooks

Joel Watson (W). *Strategy: An Introduction to Game Theory*, W. W. Norton & Company, Third Edition, 2013. ISBN: 9780393918380.

《策略：博弈论导论》（美）沃森著，费方域等译，格致出版社 2010 年 11 月，
ISBN: 9787543217485.

Steve Tadelis (T). *Game Theory: An Introduction*. Princeton University Press, 2013.
ISBN: 9780691129082.

《博弈论导论》（美）泰迪里斯著，李井奎译，中国人民大学出版社 2015 年 02 月，ISBN: 9787300199931.

Other References

1. Robert Gibbons. *Game Theory for Applied Economists*. Princeton University Press, 1992.
ISBN: 9780691003955.

《博弈论基础》（美）吉本斯著，高峰译，中国社会科学出版社 1999 年 3 月，
ISBN: 9787500424543.

2. Martin J. Osborne. *An Introduction to Game Theory*. Oxford university press, 2003.
ISBN: 9780195128956.

《博弈入门》（美）奥斯本著，施锡铨等译，上海财经大学出版社 2010 年 3 月，
ISBN: 9787564204464.
《博弈入门》Martin J. Osborne，上海财经大学出版社 2005 年 3 月（英文版），
ISBN: 9787810983167.
3. (Graduate level) Drew Fudenberg and Jean Tirole. *Game Theory*. The MIT Press, 1991. ISBN:
9780262061414.
《博弈论》（法）弗登博格、梯若尔著，黄涛等译，中国人民大学出版社 2015 年 5 月，
ISBN: 9787300209937.

Course Website and Online Platforms

I will post course materials on Canvas (https://oc.sjtu.edu.cn/) during the semester. We will use
WeChat group chat for instant communication.

Grading

Homework	20%
In-class performance	10%
Attendance	10%
Project	20%
Final Exam	40%

There will be four problem sets. I encourage you to work together, but you need to turn in your
own answers. You have about two weeks to work on each problem set. Please submit your answers
on Canvas by the due date.

The in-class performance will be evaluated based on your participation in class activities, including
the discussion during your classmates' presentations. Please silence all electronic devices before
class starts. Please be considerate to me and your fellow students.

I will take attendance at the beginning of three classes. Students can provide a legitimate reason for
missing a class **before** the class, but **not after**.

For the project, you will work in four-to-five-person teams. Each team needs to submit a report on
Canvas, and do an in-class presentation based on a published research article. I will provide a list of
papers and determine the presentation schedule at the beginning of the semester. Students who are
not presenting are also encouraged to read the paper before class and come with some questions for
each paper to be discussed. More details about the project will be provided separately.

The final is a cumulative, closed-book exam. It will follow the university exam schedule. Missed
exams will only be excused without penalty if the absence is due to a reason that the university
officially recognizes as legitimate. Exams missed for unexcused reasons will receive a score of 0.

Tentative Course Schedule

	Topic	Readings
1	Introduction, math review, the extensive form	W 1, A, 2
2	The normal form, beliefs, general assumptions	W 3, 4, 5
3	Dominance, rationalizability and applications	W 6, 7, 8
4	Nash Equilibrium and NE applications	W 9, 10
5	Mixed-strategy Nash Equilibrium, extensive form, backward induction and subgame perfection	W 11, 14, 15
6	Applications in industrial organization, bargaining problems	W 16, 18, 19
7	Repeated games and applications	W 22, 23
8	Incomplete information, Bayesian Nash Equilibrium	W 24, 26
9	BNE applications	W 27; T 13
10	Perfect Bayesian Equilibrium	W 28
11	PBE applications	W 29; T 18

Revision of the Syllabus

The standards, requirements and course schedule set forth in this syllabus may be modified at any time by the course instructor. Notice of such changes will be by announcement in class, via Canvas email and WeChat.