

---

# Microeconomic Theory (II)

Wei James Chen

2024 Spring Fri. 345

E-mail: jamesweichen@ntu.edu.tw

Course Web: [NTU COOL](#)

Office: College of Agri. Bldg. Room 216

Classroom: AgEcon 3

TA: Kuo-Jung Ping

TA E-mail: r11627010@ntu.edu.tw

---

## Course Description

This course offers an introduction to noncooperative game theory. The course is intended both for graduate students who wish to develop a solid background in game theory in order to pursue research in the applied fields of economics and related disciplines, and for students wishing to specialize in economic theory. Meanwhile, we will also extend the discussion to basic mechanism design.

## Course Objective

This course aims to enable students to:

- Become familiar with various types of game theory models.
- Use game theory to analyze economic issues.
- Analyze agent decisions using a formal theoretical framework.
- Enhance the rigor of decision-making and avoid logical fallacies through mathematical analysis.
- Understand the fundamental theories and applications of mechanism design.

## Prerequisites

- Microeconomics
- Microeconomic Theory (I)
- Calculus

## Office Hours

Fri. 13:20 –14:20 (By appointment only)

## Textbooks

Strategy: An Introduction to Game Theory, 3rd Edition by J. Watson (華泰文化代理)

## Reading Materials

Auction Theory, 2nd Edition by V. Krishna

## Grading Policy

- 10% Class Participation
- 30% In-class Assignment
- 30% Midterm
- 30% Final

If your final grade is higher than your midterm grade, your final will account for 60% instead.

# Course Schedule

---

| Week    | Date | Topic  |
|---------|------|--|
| Week 1  | 2/23 | About this Class<br>Introduction<br>The Extensive Form   |
| Week 2  | 3/1  | Strategies and the Normal Form<br>Beliefs, Mixed Strategies, and Expected Payoffs<br>General Assumptions and Methodology |
| Week 3  | 3/8  | Dominance and Best Response  |
| Week 4  | 3/15 | Rationalizability and Iterated Dominance<br>Nash Equilibrium   |
| Week 5  | 3/22 | Nash Equilibrium<br>Mixed-Strategy Nash Equilibrium  |
| Week 6  | 3/29 | Details of the Extensive Form<br>Sequential Rationality and Subgame Perfection   |
| Week 7  | 4/5  | <b>(No Class)</b> National Holiday   |
| Week 8  | 4/12 | Repeated Games and Reputation  |
| Week 9  | 4/19 | Random Events and Incomplete Information<br>Bayesian Nash Equilibrium and Rationalizability                              |
| Week 10 | 4/26 | Perfect Bayesian Equilibrium   |
| Week 11 | 5/3  | <b>Midterm</b>   |
| Week 12 | 5/10 | General Auction  |
| Week 13 | 5/17 | General Auction  |
| Week 14 | 5/24 | Mechanism Design   |
| Week 15 | 5/31 | Mechanism Design   |
| Week 16 | 6/7  | <b>Final</b>   |

---