# National Taiwan University
## Department of Economics
## ECON 8812: Advanced Microeconomic Theory 2A
## Spring 2026

**Instructor:** Sungmin Park
**Email:** sungminpark@ntu.edu.tw
**Office:** Room 751, College of Social Sciences
**Office Hours:** Mondays at 1:00 PM – 2:00 PM or by appointment

**Teaching Assistant:** Cheng-Xiang (Ernie) Zhuang
**Email:** d13323004@ntu.edu.tw
**Office:** TBA
**Office Hours:** TBA

## Class Time and Location

Lecture classes:

Mondays at 2:20 PM – 5:20 PM in Room 607, College of Social Sciences

Recitations:

Wednesdays at 4:30 PM – 6:20 PM in Room 607, College of Social Sciences

## Course Description

This course provides graduate-level foundations in choice under uncertainty, general equilibrium, and competitive markets with asymmetric information. It is primarily designed for first-year graduate students in economics. The prerequisite for this course is Introduction to Quantitative Methods (ECON 7009).

We begin with individual decision making under uncertainty, covering preferences over lotteries, expected utility theory, and departures from expected utility. We then develop partial and general equilibrium theory, including existence and welfare results, and extends the general equilibrium framework to environments with production and uncertainty, with emphasis on insurance and securities markets under symmetric information. The course concludes with competitive markets under asymmetric information, focusing on adverse selection in insurance markets through the Rothschild-Stiglitz screening model and the Akerlof lemons model.

By the end of the course, students should be able to:

- Characterize preferences over lotteries and apply expected utility theory to decision making under uncertainty.
- Analyze risk aversion, certainty equivalents, stochastic dominance, and optimal insurance and portfolio choice.
- Construct and analyze partial and general equilibrium models, including pure exchange and production economies.

- State and apply Walras' Law and the First and Second Welfare Theorems.
- Analyze general equilibrium under uncertainty and the role of insurance and contingent claims markets.
- Evaluate competitive market outcomes under asymmetric information.
- Read and work with advanced microeconomic theory models and proofs at the graduate level.

## Course Requirements

Students are required to attend classes regularly, complete homework assignments, take the midterm quiz, and take the final exam. Students may discuss homework problems with classmates or use generative AI tools to get hints on how to solve them, but must write their own answers and ensure they fully understand their solutions.

## Textbooks

Required:

**(M)** Mas-Colell, A., Whinston, M.D., and Green, J.R., 1995. *Microeconomic Theory.* Oxford University Press.

Optional:

**(K)** Kreps, D.M., 2013. *Microeconomic Foundations I: Choice and Competitive Markets*. Princeton University Press.

## Grading

Homework: 20%

Midterm Quiz (Wednesday, March 18): 30%

Final Exam (Monday, April 13): 50%

## Academic Integrity

Cheating on exams is strictly prohibited. Cheating includes, but is not limited to:

- Bringing unauthorized notes, study aids, or texts into the exam room, or consulting them outside the room during the exam (e.g., in the bathroom);
- Using a cell phone or other electronic device to store or access information during the exam;
- Having another person take the exam on your behalf;
- Communicating with classmates, looking at their work, or allowing others to look at your work during the exam.

## Course Schedule

The following is a tentative course schedule. Specific dates and topics are subject to adjustment.

| Week | Dates | Topic | Reading |
|------|-------|-------|---------|
| Week 1 | 02/23, 02/25 | Preferences over lotteries, von Neumann-Morgenstern Axioms, Expected utility theorem, Allais paradox, Ellsberg paradox, Alternatives to expected utility theory | M-6 |
| Week 2 | 03/02, 03/04 | Risk aversion, Jenson's inequality, certainty equivalent, measures of risk aversion, an insurance problem, a portfolio problem, stochastic dominance, states of nature | M-6 |
| Week 3 | 03/09, 03/11 | Partial equilibrium, general equilibrium, pure exchange model, Edgeworth box | M-10, M-16 |
| Week 4 | 03/16, 03/18 | Walras' Law, existence of equilibrium, first and second welfare theorems, **Midterm Quiz** | M-16 |
| Week 5 | 03/23, 03/25 | General equilibrium with production, general equilibrium with uncertainty | M-16, M-19 |
| Week 6 | 03/30, 04/01 | Insurance with asymmetric information, competitive screening, Akerlof's model | M-13; Rothschild and Stiglitz (1978)* |
| Week 7 | 04/08, 04/10 | Tomb-Sweeping Festival Holiday (04/08), Final Exam Review | |
| Week 8 | 04/13 | **Final Exam** | |

\* Rothschild, M. and Stiglitz, J., 1978. Equilibrium in competitive insurance markets: An essay on the economics of imperfect information. In *Uncertainty in economics* (pp. 257-280). Academic Press.