

# ECON5207: Decision Theory

Instructor: Yi-Hsuan Lin

Spring, 2026

National Taiwan University

Class Hours: Mon/Fri 13:20-15:10

Class Room: College of Social Sciences 402

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## Instructor's Information

- E-mail: YIHSUANL@ECON.SINICA.EDU.TW
- Course Web: NTU COOL
- Office Hours: By Appointment
- Office Room: B312, Institute of Economics, Academia Sinica

## Course Description

This course introduces the fundamental results of decision theory, studying individual choice behavior from a theoretical perspective. The objectives of the course are to familiarize students with the basic concepts and underlying logic of decision theory and to develop their critical-thinking skills.

The course focuses on axiomatic decision theory, in which theories are characterized by axioms (properties) imposed on choice behavior. We will begin with abstract choice under certainty in the first few weeks and then turn to decision-making under uncertainty.

## Course Materials

The following books are useful references:

- *Notes on the Theory of Choice* by David M. Kreps, Westview Press, 1988
- *Theory of Decision Under Uncertainty* by Itzhak Gilboa, Cambridge University Press, 2009
- *Revealed Preference Theory* by Christopher P. Chambers and Federico Echenique, Cambridge University Press, 2016

You are **not** required to purchase any of these books. I am not sure where to buy them in Taiwan; however, you may be able to find electronic versions online. These books are also available at the NTU Library.

I will also prepare lecture slides, which you can download from the course website. Please note that the slides may be updated at any time. Therefore, if you wish to print them out before class, please do so as close to the class time as possible.

Some of the course content will be drawn from journal articles.

## Office Hours

If you have any questions, please email me first. Many issues can be resolved efficiently through email communication.

If you would like to meet with me in person, please email me to make an appointment. Mondays and Fridays are usually preferred. We can meet before or after class somewhere on the NTU campus. On other days, you may need to come to Academia Sinica, or we may arrange an online meeting.

**Please always email me at my Academia Sinica email address.** Do not email my NTU address, as I rarely check that account.

## Problem Sets and Exams

I plan to assign two or three problem sets over the course of the semester. They will be issued approximately every one to two weeks and will be due one to two weeks after release. Problem sets will be posted on the course website, and solutions will be provided after submission. Students are encouraged to discuss the problems with classmates; however, each student must submit their own solutions, either in hard copy or as a PDF via email. Please note that you are responsible for the readability of your submission. Write clearly and concisely.

The exam will be similar in style and difficulty to the problem sets. It will be an *open-book* exam. You may bring lecture slides, problem sets, and handwritten notes to the exam;

however, all materials must be in hard copy. The use of electronic devices during the exam is not permitted.

## Evaluation Standards

Homework accounts for 40% of your final grade, the final exam for 40%, and attendance for 20%. Depending on your overall performance, these weights may be adjusted upward.

## Course Schedule

Below is the tentative course schedule. The course will be offered during the first half of the spring semester, with two lectures per week. The first class will be held on February 23, and the final exam will take place on April 17.

Week 1. 2/23: Choice, Preference, and Utility Function

2/27: **National Holiday**

Week 2. 3/2: Preference Maximization

3/6: Sequential Rationalizability

Week 3. 3/9: Choice under Inattention

3/13: Random Choice

Week 4. 3/16: vNM Expected Utility

3/20: vNM Expected Utility

Week 5. 3/23: Subjective Expected Utility

3/27: Subjective Expected Utility

Week 6. 3/30: Decisions under Ambiguity

4/3: **National Holiday**

Week 7. 4/6: **National Holiday**

4/10: Decisions under Ambiguity

Week 8. 4/13: To be determined...

4/17: Exam