

# Advanced Microeconomics I

Spring 2023, ITAM

Instructor: Xinyang Wang

- Class Hours: Tuesdays 10 am – 1 pm
  - Classroom: RH 204
  - Office Hour: by appointment
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## Course Description

This is a course in economic theory, the first in a sequence of two. The principle purpose of this course is to introduce the formal language for analyzing individual behavior of economic agents. Given the time constraint, we may introduce some topics including how these economic agents may interact with each other in a competitive market.

## Topics

Broadly, we will cover:

- 1) A very quick review of the relevant mathematics
- 2) Consumer choice
- 3) Decisions and Uncertainties
- 4) Exchange market

## Prerequisites

The formal prerequisite is intermediate microeconomics. Technically speaking, knowledge of multivariate calculus, probability, and some basic knowledge of matrix operations will be helpful. This course will be more abstract than other undergraduate

economic class; you should feel comfortable with standard mathematical notation and abstract reasoning. Students' interests will be crucial.

## Grading

Presentation: 20%

Final Exam: 30%

Assignments: 50%

### Course Participation

Course participation and consistent attention are expected in this course. If you need to miss a meeting (or a half) for any reason, please let the instructor know. In case you expect to miss a handful of meetings, please consider retaking this course in a different semester.

### Presentation

Every student is expected to give a 20-minute presentation in class on either teaching course material or introducing some additional material relevant to the course. The presenter will also be responsible for producing the corresponding lecture notes and distributing them on the presentation day (before the presentation). The topic arrangement will be based on students' interests.

Given the nature of these presentations, all presentation materials are considered as required other than optional for this course. Therefore, attention to the presentations is also expected.

### Assignments

There will be (more or less) weekly assignments throughout the semester. Each assignment will contain 3 to 4 questions. Usual assignment rules such as no late submission apply. **Collaborative work on assignments is very encouraged**, but each student should compose and submit his/her own solution independently. I assume that this independence means no one should see each other's written homework before submitting his own.

## Exercises

In addition to the assignments, there will be some exercises in the lecture notes for you to complete. If you need more exercises, you could either work on exercises in any reference book (see below) or consult with the instructor.

## Readings

I will use my own notes throughout this course. For references, see below:

For consumer and producer theory:

- David M. Kreps, *Microeconomic Foundations I: Choice and Competitive Markets* (Princeton University Press, 2013)
- Osborne, M. and Rubinstein, A., *Models in Microeconomic Theory* (Open Book Publishers, 2020)
- Geoffrey A. Jehle and Philip J. Reny, *Advanced Microeconomic Theory* (3rd edition, Prentice Hall, 2011)

For general equilibrium theory:

- Gerard Debreu, *Theory of value: An axiomatic analysis of economic equilibrium*. (Yale University Press, 1959)
- Truman Bewley, *General Equilibrium Theory, Overlapping Generations Models, and Optimal Growth Theory* (Harvard University Press, 2010)

For mathematics:

- Efe OK, *Real Analysis with Economic Applications* (Princeton University Press, 2007)
- Carl Simon and Lawrence Blume, *Mathematics for Economists* (Norton, 1994)

In some sense, this course will be a course on communications (about economics). Therefore, any interaction (including questions, comments, and criticisms) in or after class is a critical part of this course and will be greatly appreciated. I will be available through email as much as I can.

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