

ADVANCED MICROECONOMICS I: SYLLABUS

Instructor: Xiang Sun

Wuhan University, Economics and Management School
Academic Year 2022–2023, Semester 1

Chinese title: 高级微观经济学 1.

Prerequisite: Calculus, Probability, Intermediate Microeconomics, Basic Game Theory.

Course description: In this course, we mainly talk about the information economics. The first part is the theory of incentives (or the contract theory), including adverse selection, moral hazard, and nonverifiability. The second part is the information transmission, including signaling, cheap talk, Blackwell experiment, Bayesian persuasion, and herding.

We try to provide a systematic understanding of the form and the consequences of these economic interactions by describing and analyzing them with the use of a theoretical framework. These models will help us gain insights in understanding how individuals interact in certain novel situations, and allow us to draw conclusions on what outcomes to expect from their interactions.

We will not cover the core part of mechanism design, which is the main focus of Advanced Microeconomics II.

Modular credit: 3 modular credits.

Modular number: EC311.

Time: Week 1–16, Thursday, 08:00–10:35.

Venue: 理-105 for onsite teaching, and [Tencent Meeting 381 473 0039](#) (password 123456) for online teaching.

Module website: <https://www.xiangsun.org/teaching>, for announcements and lecture notes downloading.

Instructor: 孙祥

- E-mail: xiangsun.econ@gmail.com.
 - Before asking questions, please briefly read [提问的智慧](#).
 - Before sending e-mails, please read Topic 7 in [WISE 学生礼仪指南](#).
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Office hours: Immediately after lectures.

Teaching assistants: 郭敏婷 (E-mail: yitingguo@whu.edu.cn), 卢昊禹 (E-mail: 2019300002003@whu.edu.cn).

Main references:

- [LM] Jean-Jacques Laffont and David Martimort, *The Theory of Incentives: The Principal-Agent Model*, Princeton University Press, 2002.
- [MWG] Andreu Mas-Colell, Michael D. Whinston, and Jerry R. Green, *Microeconomic Theory*, Oxford University Press, 1995.
- [Sun] Xiang Sun, *Lecture Notes on Game Theory: Theory and Examples*, 2018.
Electronic version is available at [Sun's homepage](#). The latest version is on March 5, 2018.

Supplementary readings:

- [聂] 聂辉华, *一切皆契约*, 上海三联书店, 2021.
- [陈] 陈钊, *信息与激励经济学*, 第三版, 格致出版社, 2018.
- [田] 田国强, *高级微观经济学*, 中国人民大学出版社, 2016.
- [S] Bernard Salanié, *The Economics of Contracts*, 2ed., The MIT Press, 2005.
- [BD] Patrick Bolton and Mathias Dewatripont, *Contract Theory*, The MIT Press, 2005.

Grading:

- Homework: 30%.
 - Submitted within 14 days of posting.
- Closed-book mid-term test: 30%.
 - Date and time: Week 9 or 10.
 - Venue: 理-105.
 - Scope: Lectures 1–7.
- Closed-book final examination: 40%.
 - Date and time: TBA.
 - Venue: TBA.
 - Scope: All lectures.

Language:

	Lecture notes	Lectures	Homework sets	Mid-term test	Final examination
Chinese		✓			
English	✓	✓	✓	✓	✓

Examination policy:

- Each student should bring the student card with clear photo ID.
- Cheating = 0 mark.
- No permission is ever given to a student to write the mid-term test or final examination in advance of its date.
- There is no make-up for the mid-term test or the final examination.

- The student who misses the mid-term test can have the weight of the missed mid-term test shifted to the final examination, if both of the following conditions are met:
 - The student notifies the instructor via e-mail and in advance of the date and time that the mid-term test will be missed.
 - The student submits an official medical certificate to the instructor within 3 working days of final examination.
 Students who do not write the mid-term test, and fail to meet both criteria receive a 0 mark.
- For the student who misses the final examination, the University policy applies.

Course outline:

- Part 1: Theory of incentives/Contract theory:
 - Adverse selection,
 - Moral hazard,
 - Nonverifiability and incomplete contract.
- Part 2: Information transmission:
 - Job market signaling,
 - Cheap talk,
 - Bayesian persuasion,
 - Herding.

Tentative time table:

Week	Lecture	Date	Topics	Remarks	
1	1	Sept. 8	[LM] 1, 2.1–2.5	Introduction, Adverse selection: Model	
2	2	Sept. 15	[LM] 2.6	Adverse selection: Analysis 1	
3	3	Sept. 22	[LM] 2.6, 2.10	Adverse selection: Analysis 2	
4	4	Sept. 29	[LM] 2.11–3.6	Adverse selection: Extensions	Hw1
5	5	Oct. 6	[LM] 4.1–4.3	Moral hazard 1	
6	6	Oct. 13	[LM] 4.3–4.4	Moral hazard 2	
7	7	Oct. 20	[LM] 4.5, 4.8	Moral hazard: Applications	Hw2
8	8	Oct. 27	[LM] 6.1–6.3	Nonverifiability	
9	9	Nov. 3		Introduction to incomplete contract	
10		Nov. 10		Mid-term test	
11	10	Nov. 17	[MWG] 13.C	Signaling	
12	11	Nov. 24	[MWG] 13.C	Signaling	
13	12	Dec. 1	[Sun] 14.4	Cheap talk	
14	13	Dec. 8	[Sun] 14.5	Bayesian persuasion	
15	14	Dec. 15		Herding	Hw3
16		Dec. 22		Review	
		TBA		Final examination	