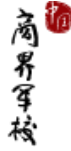# Course Code
Advanced Microeconomics II
Module 2, 2020-2021

Course Information

Instructor: Xiaoming Cai
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Office Hour: Monday 15:30-17:00

Teaching Assistant:
Phone:
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Classes:
Lectures: Mon & Thur, 8:30-10:20 (The session on Dec.21 will be moved to Dec.23)
Venue: PHBS Building, Room

Course Website:
TBA.

1. Course Description

1.1 Context

Course overview: This course is an introduction to game theory and information economics. It consists of two parts. The first part studies the fundamental ideas in game theory: strategic-form games, extensive-form games, sequential equilibrium, and Bayesian games with incomplete information. The second part then applies the tools from the first part to study issues like auction, signalling, adverse selection, and moral hazard.

Prerequisites: Calculus, Linear Algebra, and Probability and Statistics.

1.2 Textbooks and Reading Materials

The main textbook is
Mas-Colell, Andreu, Michael Dennis Whinston, and Jerry R. Green. Microeconomic Theory. Oxford University Press, 1995.

We will also consult the following two books:
Fudenberg, Drew, and Jean Tirole. Game Theory. MIT Press, 1991.
Krishna, Vijay. Auction Theory. 2nd ed. Burlington, MA: Academic Press, 2009

Finally, an elementary book for the first part is
Gibbons, Robert. Game Theory for Applied Economists. Princeton University Press, 1992.

2. Learning Outcomes

2.1 Intended Learning Outcomes

Learning Goals	Objectives	Assessment (YES with details or NO)
1. Our graduates will be effective communicators.	1.1. Our students will produce quality business and research-oriented documents.	
	1.2. Students are able to professionally present their ideas and also logically explain and defend their argument.	
2. Our graduates will be skilled in team work and leadership.	2.1. Students will be able to lead and participate in group for projects, discussion, and presentation.	
	2.2. Students will be able to apply leadership theories and related skills.	
3. Our graduates will be trained in ethics.	3.1. In a case setting, students will use appropriate techniques to analyze business problems and identify the ethical aspects, provide a solution and defend it.	
	3.2. Our students will practice ethics in the duration of the program.	
4. Our graduates will have a global perspective.	4.1. Students will have an international exposure.	
5. Our graduates will be skilled in problem-solving and critical thinking.	5.1. Our students will have a good understanding of fundamental theories in their fields.	
	5.2. Our students will be prepared to face problems in various business settings and find solutions.	
	5.3. Our students will demonstrate competency in critical thinking.	

2.2 Course specific objectives

The main objective of the course is to make students familiar with the tools of game theory and to enhance their abilities for strategic thinking by studying many applications of game theory.

2.3 Assessment/Grading Details

Your final grade in this class will be based on homework assignments, the midterm, and the final exam. The weights are:

	percentages
Problem sets	20
Midterm	40
Final	40

2.4 Academic Honesty and Plagiarism

It is important for a student's effort and credit to be recognized through class assessment. Credits earned for a student work due to efforts done by others are clearly unfair. Deliberate dishonesty is considered academic misconducts, which include plagiarism; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; or altering, forging, or misusing a University academic record; or fabricating or falsifying of data, research procedures, or data analysis.

All assessments are subject to academic misconduct check. Misconduct check may include reproducing the assessment, providing a copy to another member of faculty, and/or communicate a copy of this assignment to the PHBS Discipline Committee. A suspected plagiarized document/assignment submitted to a plagiarism checking service may be kept in its database for future reference purpose.

Where violation is suspected, penalties will be implemented. The penalties for academic misconduct may include: deduction of honour points, a mark of zero on the assessment, a fail grade for the whole course, and reference of the matter to the Peking University Registrar.

For more information of plagiarism, please refer to *PHBS Student Handbook*.

3. Topics, Teaching and Assessment Schedule

- Static games (pp 219-233, 235-253, MWG)
- Dynamic games (pp 267-282, MWG)
- Incomplete information. (pp 253-257, 282-296, MWG)
- Theory of auctions and simple mechanism design (materials from Krishna book)
- Signaling and screening (pp 450-472, MWG)
- Adverse selection (pp 436-450, MWG)
- Moral hazard, if time permits (pp 477-506, MWG)