Advanced Microeconomic Theory II

Spring 2024

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Course Description: The course introduce students to modern economic theories. Topics include game theory, information economics and general equilibrium analysis. Students are expected to be familiar with microeconomics at the intermediate level and multivariate calculus.

Textbook: 1) Microeconomic Theory, Mas-Colell, Whinston and Green (MWG), Shanghai University of Finance and Economics Press, 2005; 2) Advanced Microeconomic Theory, Jehle and Reny (JR), Shanghai University of Finance and Economics Press, 2003; 3) A Course in Game Theory, Osborne and Rubinstein (OR), MIT Press, 1994.

The game theory part of the course will be mainly based on lecture notes and MWG. The general equilibrium part will follow lecture notes, MWG, and Jehle and Reny. Information economics will be based on Jehle and Reny and lecture notes. To use the animation feature of the slides, use Adobe Acrobat Reader, which can be downloaded for free, to open the PDF file.

Language: Lectures are in English and Chinese. Notes, problem sets, and exams are in English.

Course Requirement: There are problem sets, in-class quizzes, a midterm and a final exam. The midterm covers materials up to the 8th lectures. The final assumes knowledge

of the materials from the first half, but the focus is on materials from lectures in the second half

Grading: (1) in-class quizzes, 20%; (2) problem sets, 10%; (3) midterm 30%; and (4) final 40%.

Homework: we will have 5 problem sets. Each problem set accounts for 2% of your course grade. The main purpose of the problem sets is to help your learn the material we covered. I expect everyone to complete their problem sets independently.

In-class quizzes: We will have 5 in-class quizzes (usually one every 3 weeks). The purpose of the quizzes is to check if you are doing the assigned reading and you learn the material covered in class. Detailed dates will be announced later. I will drop your lowest quiz score, so each quiz accounts for 5% of your course grade.

Academic honesty and plagiarism

The university places very high importance on honesty in academic work submitted by students, and adopts a policy of zero tolerance on academic dishonesty. While "academic dishonesty" is the overall name, there are several sub-categories as follows:

- Plagiarism;

- Cheating in quizzes and examinations;

- All other acts of academic dishonesty.

Course Outline

Part 1: Game Theory

- Strategic Form Games

  MWG chapter 7, 8, Jehle and Reny chapter 7

- Extensive form Games

  MWG chapter 9, JR chapter 7

- Static Games of Incomplete Information

  MWG chapter 8.E

- Auction Theory

  JR chapter 9

Part 2: General Equilibrium

- Simple exchange economy

  JR chapter 5, lecture notes

- Production economy

  JR chapter 5, lecture notes

Part 3: Information Economics

- Adverse Selection, Screening and Signaling

  JR chapter 8

- Moral hazard and principal-agent problem

  MWG chapter 14