

Advanced Microeconomics II
University of Oklahoma, Spring 2005

Class information: Course number: ECON 6213-001 (SEM-PRICE WLFRE THY)
Class meets: 3:00 - 4:15 PM (M W)
Classroom: HESTER HALL 0213B
Instructor: Dr. Jiandong Ju
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Office hours: Wednesday: 12:30 - 2:00 pm
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Course Description: This course is a continuation of Econ 5123 (Advanced Price Welfare Theory). As the second course in Advanced Microeconomics, the primary goal concerns game theory and its applications to the study of imperfect competition. The course is designed to give rigorous analysis and the emphasis is on reaching precise statements of some basic propositions in microeconomics. A working knowledge of multivariable calculus and linear algebra is required.

Required Textbook:

[M] A. Mas-Colell, M. Whinston and J. Green: Microeconomic Theory, Oxford University Press, 1995.

For supplementary reading you should look at:

[K] Kreps, D. : A Course in Microeconomic Theory, Princeton University Press, Princeton, 1990.

[G] Gibbons, Robert: Game Theory for Applied Economists, ISBN: 0691003955, Princeton University Press, 1992

[B] Bolton, Patrick and Mathias Dewatripont: Contract Theory, ISBN 0262025760, MIT Press, 2005.

Other supplementary assignments of articles and chapters from books, especially regarding applications will be indicated as needed.

Exams: There will be a midterm exam and a comprehensive final exam. The exact date is still to be determined. Both will be closed book exams.

Homework: The course places a lot of emphasis on the analytical tools of microeconomics. Problem solving is an integral part of this training. There will be 6-8 homework assignments. They will be distributed in class and due back in a week.

Grades: The homework will represent 20%. The midterm will represent 30%. The final will represent 50%.

COURSE OUTLINE

1. Basic Elements of Noncooperative Game Theory: Extensive and strategic forms, Randomized Choice

Reading:

[M] Chapter 7.

[K] Chapter 11.

2. Simultaneous-Move Games: Backwards induction, Dominance, Rationalizability, Equilibrium, Incomplete Information.

Reading:

[M] Chapter 8.

[K] Chapters 12 & 13.

3. Dynamic Games: Perfect equilibrium, Sequential equilibrium and refinements, Dynamic and repeated games.

Reading:

[M] Chapter 9.

[K] Chapter 14.

4. Asymmetric Information: Signalling games, Adverse selection.

Reading:

[M] Chapter 13.

[K] Chapter 17.

5. The Principal-Agent Problem: Moral Hazard, Risk sharing, Transaction costs.

Reading:

[M] Chapter 14.

[K] Chapters 16, 19 & 20.

6. Bargaining: Normative principles, Nash's solution, Sequential bargaining, Bargaining and markets.

Reading:

[M] Chapter 22.

[K] Chapter 15.

7. Auctions and Mechanism Design: Private value and common value auctions, The revenue equivalence principle, Asymmetric information, Multiple object auctions.

Reading:

[M] Chapter 23.

Additional reading:

Milgrom, P. (1989): "Auctions and Bidding: A Primer," *Journal of Economic Perspectives*, 3, 3-22.

8. Social Choice and Incentives: Arrow's general possibility theorem, Strategic play and the Gibbard-Satterthwaite theorem, The implementation problem.

Reading:

[M] Chapter 21.

Additional reading:

Reny, Philip J. (2001): "Arrow's Theorem and the Gibbard-Satterthwaite Theorem: A Unified Approach," *Economics Letters*, pp. 99-105.

9. General Equilibrium: Basic Welfare Properties, Uncertainty, Positive Theory of Equilibrium, Equilibrium and Time.

Reading:

[M] Chapters 4, 10, 15, 16, 17, 19 & 20.