

NORTHEASTERN UNIVERSITY
Department of Economics

ECNG710
Microeconomic Theory II
Fall 2006

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Lectures: Wednesday, 4:00pm-7:00pm

Office Hours: Wednesday 10:00am-12:00pm, Friday 1:30pm-2:30pm

Topics: This is an advanced course in microeconomic theory, building on the master's-level course in microeconomics. It is divided into roughly two parts: a smaller part, dealing with topics in the neoclassical theory (general equilibrium, social choice, welfare); and a larger part dealing with game theory and its applications, including information economics, incentives, and mechanism design. The theoretical treatment will generally be conceptual rather than formal, and we will focus heavily on applications of the theory, particularly in the game theory part of the course. The goal of this course, in conjunction with Microeconomic Theory I, is to provide you with the necessary analytical tools and framework for considering and solving problems in applied microeconomics.

Prerequisites: A sound grasp of economic theory at the master's level and of mathematics at the level of Chiang's *Fundamental Methods of Mathematical Economics* is presumed.

Mechanics: Grades are determined by three 2-hour exams (30% each) and problem sets that will be assigned on a (nearly) weekly basis (10%). You may work in groups on the problem sets; if you choose to do so, turn in only one copy with the names of all members of the group on that copy. Problem sets will not be accepted late.

Texts: The two texts for the course are the following:

Gibbons, R. 1992. *Game Theory for Applied Economists*. Princeton: Princeton University Press.
Mas-Colell, A., M. D. Whinston, and J. R. Green. 1995. *Microeconomic Theory*. New York: Oxford University Press.

The Gibbons text is a good introduction to game theory, with an emphasis on application. Mas-Colell et al. is encyclopedic and covers much of the material of this course but at a fairly abstract level. Another good resource for the material to be presented in this class is David Kreps' *A Course in Microeconomic Theory*, which I have placed on reserve at the library.

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Schedule of Lectures and Readings for Microeconomic Theory II

Below is a rough ordering of topics as they will be presented, time permitting. Some topics will be treated in more than one lecture.

Preliminaries to the neoclassical topics

Review of neoclassical theory (partial equilibrium)

Topics in general equilibrium and welfare

Exchange economies and 2x2 production economies (Mas-Colell ch. 15)

General equilibrium theory (Mas-Colell ch. 16)

Social choice and possibility results (Mas-Colell ch. 21)

Welfare economics (Mas-Colell ch. 22)

Bargaining (Mas-Colell ch. 22)

[First Exam]

Introduction to game theoretic models and tools

Decision theory and terminology (Gibbons ch. 1)

Static games of complete and perfect information (Gibbons ch. 1)

Dynamic games and subgame perfection (Gibbons ch. 2)

Bayesian Nash equilibrium (Gibbons ch. 3)

Bayesian games in dynamic settings (Gibbons ch. 4)

[Second Exam]

Applications of game theory

Adverse selection, signaling, and screening (Mas-Colell ch. 13)

Principal-agent economics and moral hazard (Mas-Colell ch. 14)

Optimal contracts (Mas-Colell ch. 14)

Mechanism design (Mas-Colell ch. 22)

The revelation principle (Mas-Colell ch. 22)

Bounded rationality, irrationality, and behavioral economics

[Third Exam]