**ECON 501b: Microeconomics.**
**Spring 2013.**

**Lectures:** 10:30-10:50 T Th
28 Hillhouse Ave, Rm. B8

**Instructors:**
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**Topic:** This is the second part in the two-course sequence in Microeconomic Theory. The first course covered the basic tools of microeconomic analysis. The second course provides an introduction to game theory and information economics.

Game theory is the analysis of strategic interaction among individual agents. Game theory seeks to provide models of conflict and cooperation that are relevant in a large class of situations basic to almost all social sciences. It offers insight into economic, political or social situations in which individuals have different goals and preferences. The basic assumptions of game theory are that decision-makers pursue well-defined objectives (they are *rational*) and take into account their knowledge or expectations of other decision-makers’ behavior (they are *strategic*).

The first half of this course will introduce basic notions such as action, strategy and equilibrium (and its various refinements). The second half extends the theory to cover situations where different agents have different information. This allows game theory to address situations in which agents have private information that is not readily accessible to all other agents. The resulting asymmetry in information is pervasive in economic relationships: Customers know more about their tastes than firms, firms know more about their own costs than their competitors. As private information changes the nature of the economic relationships, new tools are required to analyze exchange and contracting environments. The basic adverse selection model is introduced first as the relationship between an informed and an uninformed agent. The general theory of mechanism design analyzes the problem of how an informed player, (principal or designer) can induce privately informed agents to reveal their information. This will leads us, inter alia, to the theory of auctions and related optimal trading problems. In
contrast, in signaling models the informed agent attempts to credible convey its information to the uninformed player or the market. Finally, optimal contracts are analyzed in environments where the private information only arises after contracting, which is referred to as the moral hazard problem.

Requirements: Grades will be based on:

25%: Mid-term exam: Thursday, February 28 (in class)
25%: Homework
50%: Final exam: TBA

Required texts

1. Andreu Mas-Collel, Michael D. Whinston and Jerry Green, Microeconomic Theory (Oxford University Press, 1995).

2. Drew Fudenberg and Jean Tirole, Game Theory (MIT Press, 1991)

Recommended texts


Other useful sources:


Ken Binmore, Playing for Real (Oxford University Press, 2007)


David M. Kreps, Game Theory and Economic Modelling (Oxford University Press, 1990)


George J. Mailath and Larry Samuelson, Repeated Games and Reputations (Oxford University Press, 2006)


**Tentative Outline (for the first 7 weeks)**

*Week 1:* Strategic form games. Iterated dominance. Rationalizability.
Reading: FT Ch. 1.1 and 2.1. Notes on iterated dominance and rationalizability.

*Week 2:* Nash equilibrium and strategic form refinements.
Reading: FT Ch. 1.2, 1.3 and 8.4.

Reading: FT Ch. 3, 4.1 and 4.2

Reading: FT Ch. 4.3, 4.4, 8.1, 8.2 and 8.3.

*Week 5:* Extensive form refinements (cont’d). Forward induction and strategic stability. Signaling games and the intuitive criterion.
Reading: FT Ch. 8.3, 11.2 and 11.3


*Week 7:* Imperfect monitoring. Midterm.