Microeconomic Theory II
Econ 7342, Spring 2008

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This course is the second part of the first-year graduate Micro theory sequence. It studies how *groups* of individuals make or should make choices. The course has four parts: 1. Social choice, 2. General Equilibrium (GE), 3. Game theory, 4. Contract theory. Of these, Game theory will get the most emphasis (about half the semester).

Lectures: M, W 9.30-11 in McElhinney 115. No lecture on Jan 21 (Martin Luther King Day), and Mar 17 & 19 (Spring break).
Section: F 9.30-11 beginning Jan 25.

Prerequisites

Graduate level consumer and producer theory. Everyone planning to take the course should send a brief email to Adam with a list of the *graduate-level* economics courses they have taken (name of course + textbook used) at UH or elsewhere.

Grading

Problem sets (20 %), Midterm (30 %), Final (50 %)
Weekly problem sets will be due at the start of the Monday lectures.
I plan to have the midterm on Monday, March 10, 9.30-11, and the final on Monday, April 28, 9-11.

Textbooks

(i) Main texts
For game theory, R. Gibbons: *Game Theory for Applied Economists*
For the rest, H. Varian: *Microeconomic Analysis*

(ii) Secondary texts
A. Mas-Collel, M. Whinston, and J. Green: *Microeconomic Theory* (The comprehensive reference on GE, and micro theory in general)
D. Fudenberg and J. Tirole: *Game theory* (The comprehensive reference on game theory)
M. Osborne: *Introduction to game theory* (more intuition and examples)

P. Bolton and M. Dewatripont: *Contract Theory* (The comprehensive reference on contracts)
W. Nicholson: *Microeconomic theory* or any other undergraduate micro book that you are familiar with.

Agenda

I. SOCIAL CHOICE
Pareto optimality; Edgeworth box; Social welfare functions; Arrow's theorem; Core; Nash bargaining
Readings: Varian 17, 21.1, MWG 21.C,D, 22.E

II. GENERAL EQUILIBRIUM
Exchange economies; Existence of competitive equilibrium; Fundamental welfare theorems; Equilibrium and the core
Readings: Varian 17, 21.1

III. GAME THEORY
1. Static games of complete information
    Normal form representation; Dominance and iterated elimination; Nash Equilibrium
    Readings: Gibbons 1.1-1.2 (except 1.2.C)
    Mixed strategies; Existence of NE; Rationalizability
    Readings: Gibbons 1.3
2. Dynamic games of complete information
    Extensive form representation; Backward induction
    Readings: Gibbons 2.1, 2.4A
    Subgame perfection; Randomization in extensive form
    Readings: Gibbons 2.4B, 2.2B,C
    Repeated games; Folk theorems
    Readings: Gibbons 2.3
3. Static games of incomplete information
    Bayesian games; Bayesian Nash equilibrium
    Readings: Gibbons 3.1, 3.2
4. Dynamic games of incomplete information
    Perfect Bayesian Equilibrium; Signaling games
    Readings: Gibbons 4.1, 4.2
    Other applications; Extensions
    Readings: Gibbons 4.3A, 4.3C, 4.4

IV. CONTRACT THEORY
Adverse selection and screening; Applications
Readings: Varian 25.9, 25.6, 14.5-7
Moral hazard; Extensions
Readings: Varian 25.4