

**Econ 7342: Microeconomic Theory II**  
**Department of Economics**  
**University of Houston**  
**Spring 2010**

Instructor: Gergely Ujhelyi  
Office: 223C McElhinney Hall. Office hours: M 5-6.30 and by appointment.  
E-mail: gujhelyi@uh.edu  
Course website: Link from <http://class.uh.edu/faculty/gujhelyi.htm>

Teaching assistant: TBA  
Office: TBA  
E-mail: TBA

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 118. Section: F 9.30-11 beginning Jan 29.

**Prerequisites**

Graduate level consumer and producer theory as in Econ 6342.

**Grading**

Problem sets (10 %), Midterm (35 %), Final (55 %).

I plan to have the midterm on Wednesday, March 10, 9.30-11, and the final on Monday, May 3, 9-11. The Final will cover the whole semester.

**Requirements, policies and advice**

This is a fast-paced course covering a lot of material that students tend to view as particularly demanding. To succeed, you will need to study throughout the semester: slacking off and trying to catch up a week before the exam is not going to work.

For the most part, the course teaches you problem solving *skills* that you can apply in your own research and to understand other people's work. Therefore struggling on your own with problem sets, texts and lecture notes is an essential part of the course. Do not be fooled into thinking that "If I understand it, I can use it" – understanding is only a first step; moreover, you won't know whether you actually understand it until you've used it.

With this in mind, you should work on the problem sets alone, *not* in groups. If you get stuck, work harder. If you're still stuck, ask the TA, not your classmates, for advice.

Of course, I do encourage you to discuss the material from lectures, your readings, or previous problem sets with each-other. Talking about economics with your peers is an important part of your training. Similarly, it is important that you ask questions during class if something is unclear and come to office hours when you need more help.

Lecture slides will be posted on-line before each class. I advise you to bring a copy with you, so you can spend less time taking notes and more time asking questions. Obviously, reading the posted lecture notes is not a substitute for attending class.

Lectures start at 9.30 sharp and you should be on time.

Late assignments will not be accepted. Any absence from an exam must be documented by a doctor or approved by me in advance.

If you believe there is a grading error in your exam (other than the summing of the points), you can submit it for re-grading. Briefly describe the error in writing; I will then re-grade the entire exam (not just a single problem).

### **Textbooks**

The books you become familiar with during your first year will serve as invaluable reference for the years to come, including after you graduate.

For Game Theory, each of you should get a copy of R. Gibbons: *Game Theory for Applied Economists*, and read the relevant sections given below as we go through the material. I advise you to read the text after class.

For the rest, you can choose between A. Mas-Colell, M. Whinston, and J. Green: *Microeconomic Theory* and H. Varian: *Microeconomic Analysis*. The former is more comprehensive and, on some topics, more advanced, but it can be hard to use as a reference for its sheer size. The latter is less comprehensive, but a very convenient reference.

In addition, you might find the following texts useful:

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 16.E,F, 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 / MWG 15 (except 15.D), 16.C,D

### 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 / MWG 14.C

Moral hazard; Extensions

*Readings:* Varian 25.4 / MWG 14.B