

Microeconomics I

Economics, Markets, and Institutions

Spring Semester 2008

IMT Lucca

Syllabus

Instructor: Jing-Yuan CHIOU

Office: San Ponziano, 2nd floor, office 06

Phone: 0583 4326 734

Email: jy.chiou@imtlucca.it or jychioua@gmail.com*

Office Hours: Thursday 5-7 pm* and Friday 5-6 pm

Course blog: <http://imt-microi2008.blogspot.com/>

Objectives

The purpose of this course is to provide a smooth transition from undergraduate- to graduate-level microeconomics, and to build a solid foundation for future research. It will cover classical consumer and producer theory, choice under uncertainty, partial equilibrium analysis, and game theory. Students successfully completing this course will be able to comfortably work with modern microeconomics tools in future study and research.

Readings

- Andreu Mas-Colell, Michael Whinston, and Jerry Green, *Microeconomic Theory*, Oxford University Press, 1995. (MWG)
- Hal Varian, *Microeconomic Analysis*, W. W. Norton, 3rd edition, 1992. (V)
- Drew Fudenberg and Jean Tirole, *Game Theory*, MIT Press, 1991. (FT)

The main textbook for this course is Mas-Colell *et al.*, and some examples in consumer/producer theory and game theory will be drawn from Varian and Fudenberg-Tirole, respectively. Mas-Colell *et al.* is a standard textbook of Microeconomics in most graduate

programs, and Fudenberg-Tirole provides in-depth and thorough treatments of game theory. Both are pretty technical. For more accessible references, Robert Gibbons' "*Game Theory for Applied Economists*" (Princeton University Press, 1992) and Varian are recommended. A shorter, but excellent introduction to game theory is Chapter 11 of Tirole's "*The Theory of Industrial Organization*" (MIT Press, 1988).

Evaluation

I will suggest exercises after each lecture, but they are not graded homework assignments and will *not* be part of the final evaluation. Your final grade is determined mostly, if not only, by a written exam. The exam date will be announced later.

If one exam is too risky, you can volunteer for a 10-15 minutes presentation to spread the risk. This presentation is optional, and can *not* substitute for the final exam. If you opt for a presentation, your final grade will be determined by the final exam (80%) and presentation performance (20%); otherwise the final exam result is your final grade.

A presentation will cover an important example or concept in the second half of the course, i.e., choice under uncertainty and game theory. Please confirm before April 18 if you want to make a presentation. The content of each presentation will be decided before the end of April; you'll have one to two weeks to prepare.

Class policies

Please read designated materials before attending the class.

You are encouraged to use office hours, emails, and the course blog to set up appointments, discuss questions, and express your ideas about the course or your research. For office hours, if possible, please let me know before coming. With enough people showing up, for instance, for exercises, we can book a classroom in San Michele. (But to give you enough time to work, I will not address exercises distributed at the same week.)

Please check the blog regularly for announcements, suggested exercises, and other information.

Schedule

(Tentative; ♠ indicates optional topics.)

Lecture 1. Consumer Theory (Apr. 8, 2-5pm)

- Budget constraints (MWG 2.B, 2.C, & 2.D)
- Preference and utility (MWG 1.B, 3.B & 3.C)
- Examples

Lecture 2. Consumer Theory (Apr. 10, 10am-1pm)

- Utility maximization (MWG 3.D)
- Expenditure minimization (MWG 3.E)
- Duality (MWG 3.G)

Lecture 3. Consumer Theory (Apr. 15, 2-5pm)

- Integrability♠ (MWG 3.H)
- Welfare evaluation of economic changes (MWG 3.I)
- Special cases: endowment and labor supply♠ (V 9 & MWG 15.B)
- Revealed preferences♠ (MWG 1.C & 2.F)

Lecture 4. Producer Theory (Apr. 16, 2-5pm)

- Technology (MWG 5.B)
- Profit maximization and cost minimization (MWG 5.C)
- Examples

Lecture 5. Producer Theory (Apr. 17, 10am-1pm)

- Duality♠ (V 6)
- Cost function and π -runs (MWG 5.D & V 5)

Lecture 6. Introduction to Market Analysis: Partial equilibrium analysis (Apr 30, 2-5pm)

- Perfect Competition (MWG 10.C, 10.E, & 10.F)
- Monopoly pricing (MWG 12.B)

Lecture 7. Choices under uncertainty and introduction to game theory (May 7, 2-5pm)

- Expected utility theory (MWG 6.B)
- Risk attitude (MWG 6.C)
- Stochastic dominance♣ (MWG 6.D)
- State-dependent utility♣ (MWG 6.E)
- Elements and representations of a game (MWG 7.B & 7.C)

Lecture 8. Games with perfect information (May 8, 10am-1pm)

- Strategies (MWG 7.D & 7.E)
- Nash equilibrium (MWG 8.B & 8.D)
- Subgame perfect equilibrium (MWG 9.B)
- Applications: Static oligopoly♣ (MWG 12.C)

Lecture 9. Static games with imperfect information (May 13, 2-5pm)

- Beliefs (MWG 7.C & 9.C)
- Bayesian equilibrium (MWG 8.E)
- Applications: Mechanism design♣ (FT 7.1)

Lecture 10. Dynamic games with imperfect information (May 14, 10am-1pm)

- Perfect Bayesian equilibrium (MWG 9.C)
- Signaling games (MWG 13.C)
- Belief-based refinement♣ (MWG 13.App.A)