

Universidad Carlos III de Madrid
Master in Economic Analysis
Microeconomics II

Antoine LOEPER, Universidad Carlos III de Madrid

2018-2019

1 Summary of the Course

Microeconomic theory is a set of consistent assumptions that aim to provide a systematic and realistic model of decision making for economic agents, and to use this framework to analyze socio-economic situations such as markets, bargaining, oligopolistic competitions or social choice problems. The course Microeconomic Theory 2 introduces the fundamental tools that are needed for the analysis of strategic situations, that is, economic environments in which the optimal decision for one agent depend on what she expects the other agents will do.

2 Prerequisites

A background of Microeconomics is necessary. On top of that, the student needs to have an appreciation for mathematical modeling in the social sciences.

3 Course Structure

This course is a thirteen week course, with two lectures of 1h30 and one practical class of 1h30 per week. On top of these thirteen weeks of courses, around the middle of the semester, there is one week (around the middle of the semester) without classes in which the midterm exam takes place, and an additional week (the second week after the last class) in which the final exam takes place. The course follows a standard structure, basically inspired by Mas-Colell et al. (1995). I detail below the list of topics that we shall cover with the corresponding chapters in Mas-Colell et al. (1995):

1. Market failures and externalities (week 1 to 4)
 - (a) Bilateral externalities
 - (b) Public goods and the neutrality theorem
 - (c) Lindahl prices
 - (d) Multilateral externalities
 - (e) Discussion of Coase theorem
2. Static Games of Complete Information (week 5 to 7)

- (a) Definition and representation of static games
- (b) Solution concepts for static games: dominant strategies, rationalizable strategies, and Nash equilibrium.
- (c) Equilibrium refinements: trembling-hand Nash equilibrium...
- (d) Potential Games.
- (e) Supermodular games.
- (f) Applications:
 - i. Oligopolistic competition: Bertrand and Cournot competition.
 - ii. Local public finance with interjurisdictional externalities: equilibrium in tax/spending levels.
 - iii. Auctions: the first-price and second-price auctions.
 - iv. Electoral competition: the Downs model.
 - v. Network games: The Ballester-Calvo-Armengol-Zenou model.

3. Dynamic Games of Complete Information (week 8 to 10)

- (a) Definition and representation of dynamic game: perfect and imperfect information.
- (b) Solution concepts for dynamic games: subgame perfect Nash equilibrium.
- (c) Applications:
 - i. Bilateral bargaining: the Rubinstein model.
 - ii. Models of wars of attrition.
 - iii. Oligopolistic competition: the Kreps-Scheinkman model.
 - iv. Binary voting games.
 - v. Multistage games and cooperation.

4. Static games of incomplete information (week 11 to 13)

- (a) Definition and representation of static games of incomplete information.
- (b) Solution concepts for games with incomplete information: Bayesian Nash equilibrium.

(c) Applications.

- i. Entry games.
- ii. 1st price and second price auction
- iii. Voting in committees and the Condorcet jury theorem.

4 Faculty

- Lecturer: Antoine LOEPER
- Room: 15.2.17
- Email: aloeper@eco.ecu3m.es
- Phone: 916 24 5738
- Office hours: TBA
- Teaching Assistant: TBA

5 Lectures

Tuesday, Thursday and Friday from 10h45 to 12h159.

Room: 15.1.39.

6 Grading

The final grade will be mostly based on a midterm (about 35%) and a final exam (about 60%), and a small percentage (about 5%) of the final grade will be based on weekly homework.

7 Bibliography

The textbook for the course is "Introduction to Game Theory" by Steven tadelis, and Mas-Colell et al. (1995).