Master of Science in Economics, Tor Vergata University
Microeconomics II

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The first objective of this course is to make students familiar with strategic thinking. The second one is to introduce them to the theoretical analysis of incentive problems, and on their implications for our understanding of competitive markets. The course is based on standard textbooks, but I will also refer to a few journal articles. No background beyond undergraduate microeconomics is required, although familiarity with analytical reasoning is assumed.

1 Game theory: a general introduction

The course starts with an introduction to game theory. The distinction between normal form and extensive form is introduced. The corresponding equilibrium concepts are presented and discussed. Specifically, we plan to cover the following issues:

1. Static games of complete Information: main solution concepts. Existence theorems. Applications: models of imperfect competition.

2. Dynamic games of complete information. Representation through extensive form and backward induction. Subgame perfection. Introduction to repeated games. Applications: bargaining models.

3. Games of incomplete information and bayesian equilibria.

Textbook: R. Gibbons "A Primer in Game Theory", 1992, Chapters 1-3.

2 Social Choice and Mechanism Design

This part of the course presents an introduction to the theories of optimal allocation of resources in strategic contexts. We plan to cover the following issues:

1. A General Mechanism Design Setting. Vicrey-Clarke-Groves and Bayesian mechanisms.

2. Application: Auction Theory.

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Textbook: Jehle, G. and P. Reny "Advanced Microeconomic Theory" , 2011; Chapter 9.

- Myerson, R. (1982): Optimal coordination mechanisms in generalized principal-agent problems, *Journal of Mathematical Economics*, 1, 67-81.
- Jackson, M. (2003): Mechanism Theory, available at http://web.stanford.edu/ jacksonm/mechtheo.pdf

3   Markets with Private Information

This part of the course analyzes the role of asymmetric information and contracting in market settings. We plan to cover the following issues:

1. Adverse selection. Applications: Competitive screening and signalling in the labor market.

2. Moral hazard. Application: Strategic default in financial markets.

Textbook: Mas Colell, A., Whinston M., and J Green "Microeconomic Theory" , 1995; Chapter 13.