Microeconomics 3: Game Theory
FDPE Spring 2018
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Microeconomics 3 focuses on game theory and its application in microeconomic analysis. The students should become familiar with the central concepts of non-cooperative game theory and they should learn how to apply those in microeconomic applications. After this course they should be able to read research articles that use game theory as the method of analysis.

The topics to be covered include:

- Strategic form games: pure and mixed strategies, dominant and dominated strategies, iterated strict dominance, rationalizable strategies, Nash equilibrium
- Extensive form games: behavior strategies, sequential rationality, backward induction, sub-game perfect equilibrium, sequential equilibrium
- Dynamic games of complete information: bargaining games, repeated games
- Games of incomplete information: Bayesian Nash equilibrium, perfect Bayesian equilibrium

Lectures and study material:

The course consists of 18 lecture hours. The time schedule is posted on the course web page.

As the main text for the course one can use:

- Mas-Colell, Whinston and Green: “Microeconomic Theory”, Oxford University Press (MWG).

This book covers much of the material of the lectures. However, there are many more specialized books that can be very helpful as supplementary material:

- Fudenberg and Tirole: “Game Theory”, MIT Press.
- Osborne and Rubinstein: “A Course in Game Theory”, MIT Press.
- Myerson: “Game Theory. Analysis of Conflict”, Harvard University Press.
- Maschler, Solan, and Zamir: “Game Theory”, Cambridge University Press.

I will post lecture notes on the course web-site as the course proceeds. These will give a good idea about the contents of the lectures, but they will not be self-contained: proofs, illustrations, further discussions, etc. will be done in the class. Some further readings are also pointed out in the lecture notes.

Requirements:

To pass the course, we require two things:

1. Solving at least 50% total of the exercises in advance of the sessions. There will be 4 exercise sessions, each with a problem set that will be posted on the course page well in advance. Hand in your solutions at the beginning of each session or e-mail to the teaching assistant Andrey Zhukov.

2. Passing the exam, which will be held shortly after the course. There is one re-take possibility later in the spring.

The grade for the course is based on the exam only.