Game Theory
NYU Department of Politics
G53.2108.001
Fall 2008

Instructor: Emanuele Gerratana. E-mail: egerratana@ku.edu.tr
Time and Location: T 2-4 19W4, Rm 212
Office Hours: After class and by appt. 19W4, Rm 303-304
Learning Material and Textbooks: The required textbook is: *An Introduction to Game Theory*, Martin J. Osborne, Oxford University Press 2004.

I will also use some very nice lecture notes prepared by Levent Kockesen and Efe Ok, that I will distribute in class.

Moreover, even if not compulsory, you may find the following texts useful as supplementary material:

- *Game Theory for Political Scientists*, J.D. Morrow
- *Games of Strategy*, A. Dixit and S. Skeath
- *Strategy and Games*, P. Dutta
- *A Course in Game Theory*, M.J. Osborne and A. Rubistein
- *Game Theory*, D. Fudenberg and J. Tirole
- *Political Game Theory*, N. McCarty and A Meirowitz

Course Description: This course is an introduction to Game Theory. It aims to provide a systematic introduction to the tools of game theory and some of its applications, especially to political science.

Game Theory analyzes situations in which two or more individuals (or firms, political parties, etc.) interact in a strategic manner. Game theoretical models have been applied to many disciplines including economics, finance, law, political science and sociology.

At the end of this course you should be able to read and understand papers based on game theoretic models.

Course requirements

The course will consist of a combinations of lectures, discussions and problem-solving sessions. You are required to do the assigned readings before

class, to attend classes and participate actively to the discussions. Homework problems will be assigned regularly and it is imperative that you work on them actively as problem-solving is a crucial part of the learning process. There will be one midterm exam and a final exam.

Grading:

Problem Sets and Participation	15%.
Midterm	40%
Final	45%

Course Outline

1. Utility and Decision Theory.
2. Strategic Form Games.
3. Dominant Strategy Equilibrium and Iterated Elimination of Dominated Actions.
4. Nash Equilibrium: Theory.
5. Nash Equilibrium: Applications.
6. Mixed Strategy Equilibrium.
7. Games with Incomplete Information and Bayesian Equilibrium.
8. Auctions.
9. Extensive Form Games: Theory.
10. Extensive Form Games: Applications.
11. Bargaining.
12. Repeated Games.
13. Extensive Form Games with Incomplete Information.
14. Signaling Games.