University of Southern California
Econ 504: Game Theory and Financial Applications
Fall 2023

Professor: Fanny Camara
Office hours:
Lecture:

Course Overview and Requirements

This is a topics course in microeconomic theory intended for MA students. The focus is on game theory, mechanism design, contract theory and information economics. The goals are to provide useful tools for you to apply in the future, while also giving a flavor of the issues that arise on the frontier of research.

Prerequisites:

Intermediate microeconomics, basic calculus/optimization, an understanding of proofs, and a willingness to look things up.

Textbooks:
Game Theory: An Introduction, Steven Tadelis. (easier)
A course in game theory, by Martin Osborne and Ariel Rubinstein. (more advanced)
Both of these books are available in pdf versions on blackboard.

The only required material for exams will be lecture notes and problem sets.

Additional references:
Game Theory: Analysis of Conflicts, Roger Myerson
Contract Theory, Patrick Bolton and Mathias Dewatripont
Game Theory, Drew Fudenberg and Jean Tirole
Repeated Games and Reputations, George Mailath and Larry Samuelson
Microeconomic Theory, Andreu Mas-Colell, Michael Whinston and Jerry Green
Auction Theory, Vijay Krishna

Grades:
The grade breakdown is as follows:
(1) Participation: 10%
(2) 2 Problem Sets, (20% total=10% each)
(3) Midterm (20%)
(4) Referee Report, (15%)
(5) Final exam as per the registrar's schedule (35%)

The referee report assignments are meant to help you adapt the course to your own interests. It is also possible to use some of your work on it toward a thesis or other paper you may be working on. Some guidelines on expectations will be provided.

Topics and Lecture Breakdown:
Planned topics pre-midterm (13 classes):
(1) Single-agent problems: Expected utility and value of information
(2) Rationality and solution concepts: Nash Equilibrium, Dominant strategies
(3) Epistemological foundations: Agreeing to Disagree and No-trade
(4) Strategic interactions under incomplete information: BNE and applications
(5) Mechanism Design: Vickrey-Clarke-Groves, Revenue Equivalence, Basics of Auction Theory
(6) Dynamic Games: Backward induction and one-shot deviation principle, Folk theorems
(7) Bargaining: Rubinstein, Nash, Shapley, Baron-Ferejohn
(8) Communication: Crawford-Sobel, Spence, Verifiable Disclosure, Kamenica-Gentzkow
(9) Repeated Games and Reputations