

Game Theory II

G53.2108.001

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Classroom: #700, 726 Broadway
Mondays and Wednesdays, 4:30-6:00

Course Description

This course is a continuation of Game Theory and Politics, G53.2108. This semester will continue introducing commonly applied theoretical concepts and will also incorporate prominent applications of those concepts in political science.

Pre-requisites:

Game Theory and Politics, G53.2108

Required Texts:

Robert Gibbons, *Game Theory for Applied Economists*. Princeton University Press, 1992.
Martin J. Osborne, *An Introduction to Game Theory*. Oxford University Press,
forthcoming. (available at New University Copies, Waverly Place)
Martin J. Osborne and Ariel Rubinstein, *A Course in Game Theory*. MIT Press, 1994.

Course Requirements

Students will be expected to complete 3 homework sets, which will count for 30% of the course grade, an exam, which will count for 30%, and a paper, which will count for the remaining 40%.

Problem sets serve an important pedagogical purpose. Carefully working through problems on your own will clarify important concepts and help you identify unresolved questions about the material. Discussing these questions with fellow students and with the instructor is appropriate and encouraged, however, the solutions you submit ought to reflect only your own work and understanding. Consulting solution manuals for assigned problems is truly not in your interest.

The exam will cover the material under “Key Concepts” (below), and will be held on a Wednesday evening following the completion of that section (including problem set #2). The exam will be held AFTER the completion of the usual class meeting, NOT during normal lecture time.

The paper should be an original attempt to use game theory to explain some political phenomenon. As such, it should identify an open question, defend the importance of resolving that question, briefly review of the relevant extant literature to which the paper

will contribute, specify the model, justify or explain the assumptions, identify the appropriate solution concept and, if necessary, refinement(s), solve the model, and interpret the results.

Sequence of Topics, Readings, and Assignments

Key Concepts:

1. Bayesian Equilibria
 - (a) Review of Bayesian Nash Equilibrium
Gibbons, Ch. 3
 - (b) Perfect Bayesian and Sequential Equilibria
Osborne and Rubinstein, Ch.12
Gibbons, pp. 173-83, 233-44
Osborne, Ch. 10
 - (b') Signaling Games and Cheap Talk
Gibbons, Ch. 4 pp. 183-218
Jeffrey S. Banks, *Signaling Games in Political Science*. Harwood Academic Publishers, 1989: Ch. 2.
David Austen-Smith, "Information Transmission in Debate." *American Journal of Political Science*, Vol. 34, No. 1. (Feb., 1990), pp. 124-152.
Thomas Gilligan and Keith Krehbiel, "Collective Decision-Making and Standing Committees: An Informational Rationale for Restrictive Amendment Procedures." *Journal of Law, Economics, and Organization* vol. 3 (1987) , pp. 145-93.
Marco Battaglini, "Multiple Referrals and Multidimensional Cheap Talk." *Econometrica* vol. 70 (2002), pp. 1379-1401.

HOMEWORK #1

2. Repeated Games and Folk Theorems
Osborne and Rubinstein, Ch. 8
Osborne, Chs. 14, 15
Dilip Abreu, "On the Theory of Infinitely Repeated Games with Discounting." *Econometrica*, Vol. 56, No. 2. (Mar., 1988), pp. 383-396.
Avinash Dixit, "Trade Expansion and Contract Enforcement." Princeton University Mimeo 2003.
<http://www.princeton.edu/~dixitak/home/CircleR1.pdf>
3. Markov-Perfect Equilibrium
Eric Maskin and Jean Tirole, "Markov Perfect Equilibrium: I. Observable Actions." *Journal of Economic Theory* Vol. 100, No. 2, (October 2001), pp. 191-219.

Daron Acemoglu and James A. Robinson, "A Theory of Political Transitions." *American Economic Review* Vol. 91 (September 2001), pp 938-963.

<http://econ->

www.mit.edu/faculty/acemoglu/files/papers/transitions_aerfinal.pdf

HOMEWORK #2

Special Topics:

4. Quantal-Response Equilibrium

Richard McKelvey and Thomas Palfrey, "Quantal Response Equilibria in Normal Form Games." *Games and Economic Behavior* 1995.

Enriqueta Aragonés and Thomas R. Palfrey, "Mixed Equilibrium in a Downsian Model with a Favored Candidate." *Journal of Economic Theory*, forthcoming.

<http://www.hss.caltech.edu/%7Etrp/mixed.pdf>

5. Bargaining

(a) Bargaining Solutions and Fair Division

Osborne and Rubinstein, Ch. 15

Osborne, Ch. 16

Steven Brams, TBA

(b) Non-Cooperative Bargaining

David P. Baron and John A. Ferejohn, "Bargaining in Legislatures."

The American Political Science Review, Vol. 83, No. 4. (Dec., 1989), pp. 1181-1206.

6. Common Knowledge

Osborne and Rubinstein, Ch. 5

Giacomo Bonnano and Klaus Nehring, "Agreeing to Disagree: a Survey." UC Davis Mimeo, 1997.

<http://www.econ.ucdavis.edu/faculty/bonanno/PDF/agree.pdf>

HOMEWORK #3

7. Nuances and Interpretations

Ariel Rubinstein, "Comments on the Interpretation of Game

Theory." *Econometrica*, Vol. 59, No. 4. (Jul., 1991), pp. 909-924.

PAPER