

Syllabus – 593c
Game Theory and Public Policy

Princeton University, Fall 2007

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Office hours: Tuesday & Thursday
1 PM to 2 PM
Class: Friday 9 AM to Noon
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1 Course overview

This half-semester course introduces the main concepts of game theory and illustrates how these analytic tools allow for a systematic approach of many questions relevant for public policy. The course will be structured in three parts of roughly equal length.

Part 1 of the course will cover the fundamental game theoretical concepts, including Nash equilibrium, subgame perfect equilibrium, and perfect Bayesian equilibrium. We will discuss a number of stylized games, each illustrating a particular intuition about strategic interaction.

Part 2 of the course will explore the idea that either via legislation or public action, much of what governments do is to set up the right games for people to play. The discussion will cover varied topics ranging from the provision of public goods to the coordination and stimulation of private investment.

Part 3 of the course will analyze public policy itself as the outcome of a game. In particular, we will take a look at electoral behavior, lobbying and international cooperation.

2 Texts

The course will be essentially self-contained. Occasionally you'll be asked to read sections of papers available on the internet. Links will be provided with the course notes.

Those who want a reference text are encouraged to take a look at the following books.

Gibbons, Robert *Game Theory for Applied Economists*, Princeton University Press, (1992)

A very nice reference text, oriented towards applications and full of examples.

Schelling, Thomas *The Strategy of Conflict*, Harvard University Press (1960) and *Arms and influence*, Yale University Press (1966)

Not reference texts, but very nicely written books showing that game theory can be both systematic and intuitive.

Fudenberg, Drew and Jean Tirole *Game Theory*, MIT Press (1991)

Clearly the most complete reference text, but fairly technical. Only if you want to do further work in economic theory.

3 Grading

Course grades will be based on one midterm taken in class and a take-home project, each given equal weight. The purpose of the midterm will be to check you've learned the basic concepts. The take home project will be an occasion to apply the ideas developed in class in an applied free-form setting.