
POL 575
Formal Theory I: Game Theory

Spring 2017
M-W
10:30-11:50am
Fisher B06

Instructor: Germán Gieczewski

039 Corwin Hall

Office Hours: M 6:00-7:00, W 2:00-3:00

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PURPOSE: This course is designed as a rigorous introduction to the concepts and models used to analyze political behavior in strategic contexts. We will begin with a brief introduction to the theory of choice. As will material throughout the course, this discussion will be pitched at students whom have taken POL 502 and POL 571. The course then focuses on game theory covering normal and extensive form games, games of incomplete information, repeated games, and bargaining.

COURSE REQUIREMENTS: Grades will be determined as follows: 30% problem sets, 30% midterm, 40% final. Late work will be penalized. Also, no early final exams will be given.

READINGS:

Required Texts:

1. Drew Fudenberg and Jean Tirole. Game Theory. (FT.)
2. Robert Gibbons. Game Theory for Applied Economists. (G.)

Recommended Texts: If you do not like the text assigned, there are many others. They range from the very rigorous to those that present intuitions with very little analysis. Most are at the library if you wish to take a look. Below are a few suggestions.

- Martin J. Osborne. 2004. An Introduction to Game Theory.
- Roger Myerson. Game Theory. A high quality text.
- David Kreps. Game Theory and Economic Modelling. A more intuitive treatment.
- Dixit and Skeath. Games of Strategy. Another undergraduate text.
- McCarty and Meirowitz. 2007. Political Game Theory. The first real game theory text written for political science.
- Dixit and Nalebuff. 1991. Thinking Strategically.

- Thomas Schelling. 1960. The Strategy of Conflict. A book with great intuition and ideas, from before game theory was fully formalized.
- William Poundstone. Prisoner's Dilemma. A popular biography of John von Neumann and a history of the role of game theory in the Cold War.
- Sylvia Nasar. A Beautiful Mind. The well-known biography of the founder of non-cooperative game theory.

COURSE SCHEDULE:

Below is a list of topics and the scheduled readings for the course. Naturally, this schedule may change as the semester unfolds.

1. Utility Theory and GS Theorem
 - PDF on Blackboard
2. Games in Strategic Form and Nash Equilibrium
 - FT. Chapter 1
 - G. 1.1C, 1.3
3. Extensive Form Games
 - FT. 3
 - G. 2.1, 2.2, 2.4
4. Repeated Games
 - FT. 4.1-4.3, 5.1, 4.4
 - G. 2.3
5. Dynamic Bargaining
 - FT. 4.4
6. Static Games of Incomplete Information
 - FT. 6
 - G. ch 3.
7. Dynamic Games of Incomplete Information
 - FT. 8.1-8.3
 - G. 4.1, 4.2, 4.3A
8. Payoff Relevant Strategies and Markov Equilibrium
 - FT 13.1-13.2