

WESLEYAN UNIVERSITY
DEPARTMENT OF GOVERNMENT
Spring 2006

GOV 335: Game Theory and Political Theory
TTh 2:40-4:00 PM
Instructor: Arman Grigorian
Class Location: VVO 110
Office: PAC 220
Office Hours: MW 10:30-11:30 or by appointment

Course Description: Game theory is the mathematical language of strategic interaction, and hence a very important analytical tool for all fields studying interactive decision making, including political science. The course has two principal aims. First, it is designed to introduce the students to the basic concepts and ideas of game theory. Second, and more importantly, it intends to demonstrate how the abstract game-theoretic models can be applied to understand and explain certain problems and phenomena in political science.

Government majors with little mathematical background are the intended audience for the course. The mathematics to be used in the course, therefore, will not be very advanced. Most of the problems will require little more than knowledge of high-school algebra. There will be some problems involving simple differential calculus and probability theory, however. We will have a refresher session or two for these topics to bring everybody up to speed.

Requirements: There will be four take-home problem sets and two in-class exams. The grades will be weighted as follows

Final exam: 40%.
Mid-term exam: 20%.
Problem sets: 10% each.

No make-up exams will be given except in cases of verifiable medical or family emergencies, and late problem sets will be automatically assigned a grade of "F." You should also make sure you work on the problem-sets alone.

The following textbook will be available for purchase at the bookstore:

Avinash Dixit and Susan Skeath, *Games of Strategy*, 2nd edition (New York, NY: W. W. Norton, 2004).

Everything else will be available electronically.

Outline of topics and readings:

Preliminaries.

- Dixit and Skeath, *Games of Strategy*, chs. 1-2.
- Peter D. Sozou and Robert Seymour, "Costly but worthless gifts facilitate courtship," *Proceedings of the Royal Society of London: Biological Sciences*, Vol. 272, no. 1575 (September, 2005), pp. 1877-1884.

Games with Sequential Moves.

- Dixit and Skeath, *Games of Strategy*, chs. 3, 10.
- Thomas Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 1966), ch. 2.
- James Fearon, "Commitment Problems and the Spread of Ethnic Conflict," in David A. Lake and Donald Rothchild, eds., *The International Spread of Ethnic Conflict: Fear, Diffusion, and Escalation* (Princeton, NJ: Princeton University Press, 1998), pp. 107-126.
- Adam Przeworski, *Democracy and the Market: Political and Economic Reforms in Eastern Europe and Latin America* (Cambridge, UK: Cambridge University Press, 1991), ch. 2

Simultaneous Move Games with Discrete Strategies.

- Dixit and Skeath, *Games of Strategy*, ch. 4.
- Rober Jervis, "Cooperation under the Security Dilemma," *World Politics*, Vol. 30, no. 2 (January, 1978), pp. 167-214.
- Mark Ramseyer and Francis Rosenbluth, *The Politics of Oligarchy: Institutional Choice in Imperial Japan*, Reprint edition (Cambridge, UK: Cambridge University Press, 1998), ch. 2.

The Iterated Prisoners' Dilemma.

- Dixit and Skeath, *Games of Strategy*, ch. 11.
- Robert Axelrod, *The Evolution of Cooperation*, Reprint edition (New York, NY: Basic Books, 1985), ch. 4.

Simultaneous Move Games with Continuous and Mixed Strategies.

- Dixit and Skeath, *Games of Strategy*, chs. 5, 8.
- Jack Hirshleifer, "Anarchy and Its Breakdown," *The Journal of Political Economy*, Vol.103, no. 1 (February, 1995), pp. 26-52.

The Collective Action Problem.

- Dixit and Skeath, *Games of Strategy*, ch. 12.
- Mancur Olson, Jr. and Richard Zeckhauser, "An Economic Theory of Alliances," *The Review of Economics and Statistics*, Vol. 48, no. 3 (August, 1966), pp. 266-279.

Games of Incomplete Information.

- Dixit and Skeath, *Games of Strategy*, chs. 9, 14.
- Andrew Kydd and Barbara F. Walter, "The Politics of Extremist Violence," *International Organization*, Vol. 56, no. 2 (Spring 2002), pp. 263-296.
- Dane Rowlands and David Carment, "Moral Hazard and Conflict Intervention," in Murray Wolfson ed., *The Political Economy of War and Peace* (Boston, MA: Kluwer Academic Publishers, 1998), pp. 267-285.

Introduction to Bargaining.

- Dixit and Skeath, *Games of Strategy*, ch. 17.
- James Fearon, "Rationalist Explanations for War," *International Organization*, Vol 49, no. 3 (Summer, 1995), pp. 379-414.