

Econ 241 Game Theory

Spring 2017

TTh 9:45–11:00 am

Baxter 311

Prof. Joyce Burnette

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Office Hours: You are welcome to stop in anytime.

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Game theory analyzes strategic behavior. What happens when my decisions affect outcomes for others and when the decisions of others affect my outcomes? This type of analysis is useful in many areas including, but not limited to, economics, political science, and biology. This class will introduce you to the basic concepts of game theory and explore some applications of these concepts.

The textbook for this class is:

Avinash Dixit, Susan Skeath, and David Reiley, *Games of Strategy*, 4th ed., Norton, 2015

In addition to the textbook the following supplementary readings are available on Canvas:

Michael Shermer, "The Doping Dilemma" *Scientific American*, April 2008, 298:82–89.

Joseph Henrich, "Does Culture Matter in Economic Behavior? Ultimatum Game Bargaining Among the Machiguenga of the Peruvian Amazon," *American Economic Review*, Sept. 2000, 90:973–979.

Lisa Cameron, "Raising the States in the Ultimatum Game: Experimental Evidence from Indonesia," *Economic Inquiry*, Jan. 1999, 37:47–59.

Richard Thaler, "Anomalies: The Ultimatum Game," *Journal of Economic Perspectives*, Autumn 1988, vol. 2, no. 4, pp. 195–206.

Richard Thaler, "Anomalies: Cooperation," *Journal of Economic Perspectives*, Summer 1988, vol. 2, no. 3, pp. 187–197.

Ernst Fehr and Simon Gächter, "Cooperation and Punishment in Public Goods Experiments," *American Economic Review*, Sept. 2000, 90:980–994.

Richard Thaler, "Anomalies: The Winner's Curse," *Journal of Economic Perspectives*, Winter 1988, vol. 2, no. 1, pp. 191–202.

Ernst Fehr and Urs Fischbacher, "The Economics of Strong Reciprocity," in Gintis, Bowles, Boyd, and Fehr, *Moral Sentiments and Material Interest*, MIT Press, 2005

Grading: Your grade will be a weighted average of the following items:

Two Exams	20% each	Homework	12%
Final Exam	22%	Group Project/Presentation	10%
Quizzes	10%	Attendance/Participation	6%

Homework: To help you keep up with the material, I will assign daily homework. Expect 3 or 4 problems per day, due at the beginning of the next class.

Late homeworks will receive half credit. No homeworks will be accepted after the last day of class.

Quizzes: There will be a brief quiz at the end of class each Thursday. There are two reasons for having such frequent quizzes. First, the quizzes provide an incentive to keep up with the material. Second, the quizzes actually help you learn. Here's what cognitive scientists say about learning: "One of the most striking research findings is the power of active retrieval – testing– to strengthen memory, and that the more effortful the retrieval, the stronger the benefit."¹

¹ P. Brown, H. Roediger, and M. McDaniel, *Make it Stick: The Science of Successful Learning*, Belknap 2014, p. 19.

Group Project: You will work in groups of three students. Your task is to take a “real-life” situation, model it as a game, and apply the solution concepts learned in this class. The “real-life” situation may come from a movie or book, or from an actual historical instance. Your group will produce a short paper (4-6 pages) and present your game to the class.

Schedule:

Date	Event	Topic	Reading
Jan. 17		Normal Form Games, Nash Equilibrium, Dominance	Ch. 2.1–2.4
19		Prisoner's Dilemma, 3 players	Ch. 4.1–4.5
24		Motivation in Prisoner's Dilemma; Coordination	Michael Shermer, “The Doping Dilemma” Ch. 4.6–4.7
26		Best Response Functions, Critiques of Nash Equilibrium	Ch. 5
31		Extensive Form Games	Ch. 3
Feb. 2		Experimental Evidence; The Ultimatum Game	Henrich, “Does Culture Matter in Economic Behavior?”; Cameron, “Raising the Stakes”
7		The Ultimatum Game	Thaler, "The Ultimatum Game"
9		Order of Play; Nature	Ch. 6
14		Applications	
16	TEST ONE		
21		Mixed Strategies	Ch. 7.1–7.5
23		Mixed Strategies	Ch. 7.6–7.9
28		Signaling	Ch. 8.2–8.4
Mar. 2		Signaling	Ch. 8.5-8.6
SPRING BREAK			
14		Threats and Credibility	Ch. 9
16		Brinkmanship	Ch. 14
21		Repeated Prisoner's Dilemma	Ch. 10
23		Public Goods	Ch. 11
28		Cooperation and Public Goods	Thaler, "Cooperation"
30	TEST TWO		
Apr. 4		Public Goods Experiments; Auctions	Fehr and Gächter, "Cooperation and Punishment in Public Goods Experiments"
6		Auctions	Thaler, "The Winner's Curse"; Ch. 16
11	Presentations		
13	Presentations		
18		Evolution	Ch. 12.1-12.4
20		Evolution	Ch. 12.5-12.8
25		Voting	Ch. 15
27		Reciprocity	Fehr and Fischbacher, "The Economics of Strong Reciprocity"
May 4	FINAL 9:00 am		