

PSC 533: Formal Political Theory
Department of Political Science
University at Buffalo
Fall 2017

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Office Hours:
To be announced in-class

Description:

This course provides an introduction to formal models in political scientists. Special attention is given to rational choice models, especially game-theoretic models, and the public choice literature. Throughout, the emphasis will be on the spirit of modeling rather than on proofs and specific modeling techniques.

Required Texts:

Michael E. Brown, Owen R. Coté, Jr., Sean M. Lynn-Jones, and Steven E. Miller, eds., *Rational Choice and Security Studies*. Cambridge, MA: MIT Press, 2000.

James D. Morrow, *Game Theory for Political Scientists*, Princeton, NJ: Princeton University Press, 1994.

Philip Straffin, *Game Theory and Strategy*. Washington, DC: Mathematical Society of America, 1995.

Frank C. Zagare and D. Marc Kilgour, *Perfect Deterrence*. New York: Cambridge University Press, 2000.

Recommended/Suggested:

Douglas G. Baird, Robert H. Gertner and Randal C. Picker, *Game Theory and the Law*. Harvard University Press, 1995.

Evelyn C. Fink, Scott Gates and Brian Humes, *Game Theory Topics: Incomplete Information, Repeated Games, and N-Player Games*. Thousand Oaks, CA: Sage, 1998.

Rebecca B. Morton. *Methods and Models: A Guide to the Empirical Analysis of Formal Models in Political Science*. New York: Cambridge University Press, 1999.

William Poundstone, *Prisoner's Dilemma*. New York: Anchor Books, 1992.

Requirements:

There will be two in-class examinations, based on the readings and the lectures. The dates will be announced in class. Each examination will count for 30% of the final grade.

In addition, each student is expected to write a paper that either 1) develops, extends, or applies a game- or decision-theoretic model, or 2) explores in detail a more specialized topic directly related to the subject matter of the course. Some suggested topics may be given in class. Students are urged to approach this assignment from the vantage point of their particular research interests and future dissertation plans. Each student will present the substance of his or her paper in class at the end of the semester. The paper, and its presentation, will count for 30% of the final grade. Papers handed in later than December 1, 2018 will not be graded.

There will also be some homework assignments and other small projects. These assignments, along with classroom participation, will count for the remaining 10% of the final grade.

Learning Outcome	Assessment Measures:
Be able to identify, discuss, and apply key concepts and major approaches in game theory	Participation in class discussion Term Paper; Final exam
Demonstrate the ability to think theoretically about politics	Literature review

Academic misconduct: Academic misconduct will not be tolerated in this course. A student with a documented case of plagiarism, cheating, or another form of academic dishonesty will receive the grade of “F” for the course and might face other disciplinary action under University regulations.

Students with disabilities policy: The Americans with Disabilities Act (ADA) is a federal statute that provides comprehensive civil rights protection for persons with disabilities. This legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring accommodation, please notify me immediately.

Intellectual Property: Course materials that I (Frank C. Zagare) have prepared, together with the content of all lectures and materials presented and prepared by me in this course are my intellectual property. Video, audio, and photographic recording of lectures is prohibited without my explicit permission. The selling or dissemination of exams, study guides, homework assignments and handouts is prohibited without my explicit permission. The selling or dissemination for commercial purposes of notes derived from my lectures is also prohibited without my explicit permission.

The following is a chronological list of topics and suggested readings for these topics.

I. Introduction

Brown *et al.*, entire book
Morrow, Chapter 1; pp. 16 – 22.
Baird *et al.*, Introduction (recommended)
Morton, Chapters 1 – 3 (recommended)
Zagare and Kilgour, pp. 37 – 44
*“The Game Theorist”

II. Representing Games: The Extensive Form and Normal Form

Morrow, Chapter 3
Baird *et al.*, Chapters 1 and 2 (recommended)
Zagare and Kilgour, pp. 65 – 86
*“Extensive Form of Asymmetric Escalation Game”
Homework: Morrow, Exercises 3.1, 3.2, 3.3, 3.4, and 3.5

III. Two-Person Zero-Sum Games

Morrow, pp. 73 – 91;
Homework: 2 and 3
Homework: Morrow, Exercises 4.3, 4.4, and 4.5

IV. Introduction to Utility Theory

Morrow, Chapter 2

V. Two-Person Nonzero-Sum Noncooperative Games

Morrow, pp. 91 – 111
Baird *et al.*, Chapters 4 – 6 (recommended)
Poundstone, entire book (recommended)
Homework: Morrow, Exercises 4.1, 4.2, and 4.6
*“Game Theory Wins a Nobel”

VI. Backward Induction and Subgame Perfection

Morrow, Chapter 5
Zagare and Kilgour, Sections 2.2, 3.2 and 3.3

VII. The Theory of Metagames and the Analysis of Options Technique

Zagare and Kilgour, pp. 58 – 63.

Michael C. Shupe et al., (1980). “Nationalization of the Suez Canal,” *Journal of Conflict Resolution*, 24: 477-93.#

Straffin, pp. 76 – 78.

VIII. Repeated Games and Evolutionary Stable Strategies

Morrow, Chapter 9

*“The Importance of Being Nice”

Recommended: Robert Axelrod, *The Evolution of Cooperation*. New York: Basic Books, 1984.

IX. The Theory of Moves

Steven J. Brams, “Game Theory and the Cuban Missile Crisis,” *Plus Magazine*, Jan. 24, 2001.*

Frank C. Zagare “A Game-Theoretic Evaluation of the Cease-Fire Alert Decision of 1973,”

Journal of Peace Research, 20, number 1 (April 1983), pp. 73 • 86.#

Randall W. Stone “The Use and Abuse of Game Theory in International Relations: The Theory of Moves,” *Journal of Conflict Resolution* 45 (April 2001): 216 – 44.#

Steven J. Brams “Response to Randall Stone: Heresy or Scientific Progress?” *Journal of Conflict Resolution* 45 (April 2001): 245 – 54.#

X. Games with Incomplete Information

Morrow, Chapters 6 - 8

Zagare and Kilgour, entire book, but especially Chapters 1 – 5, and 10

Baird *et al.*, Chapter 3

Fink, Gates and Humes, entire book (recommended)

XI. Voting Games

Morrow, pp. 133 – 138

Frank C. Zagare “A Game-Theoretic Analysis of the Vietnam Negotiations: Preferences and Strategies, 1968-1973,” *Journal of Conflict Resolution*, 21, number 4 (December 1977), pp. 663 • 84.#

*Homework 4

XII. Two-Person Nonzero-Sum Cooperative Games

Morrow, pp. 111 – 116

Baird *et al.*, Chapters 7 –9 (recommended)

* “Harvard is Lone Bidder”

XIII. Introduction to N-person Games

Morrow, pp. 116 – 120

XIV. Theory of Political Coalitions

*“The Rochester School”

XV. Measuring Power

To be assigned

XVI. Conclusions

Morrow, Chapter 10



= available at: <http://www.jstor.org/>

* = available at: <http://www.acsu.buffalo.edu/~fczagare/GameTheoryHome.htm>