Fundamentals of Modeling III: Applications
PLSC 519

Instructor: Milan Svolik, Associate Professor, Department of Political Science

Class Meetings: Thursday 10-11:50, RKZ 301

Office Hours: Fridays 3-5pm, 330 Rosenkranz Hall, or by appointment

Course Web Page: canvas.yale.edu

Description: This course surveys key applications of game-theory and related methods to the study of politics and political economy. It is intended for graduate students in political science and related disciplines who have taken an introductory course in game theory. Topics covered include electoral competition, political accountability, social choice, collective action, democratization, and war.

Course Requirements:

Attendance: Regular attendance is required. Notify me in advance if you will be absent.

Reading summaries: I will ask you to submit a paragraph-per-reading summary of any discussion readings assigned to “Reading Summaries” on Canvas by 8am on the day of the class. The purpose of these summaries is to facilitate your preparation for the class and encourage you to participate in class discussions. You can also use these summaries as an opportunity to provide feedback on the assigned readings. I may draw on your summaries during class discussion.

Presentations of readings: An important part of your participation will be to present one or several (depending on enrollment) readings of your choice. (⋆) denotes readings available for presentation. The presentation should focus on key elements of the formal model in the paper. It should be brief, preferably under 15 minutes.
Presentation of a non-assigned reading: I will ask you to present your “favorite” formal research paper that is not on the syllabus. This should be an unpublished or recently published piece.

Written assignments: I will ask you to submit two short analyses a formal paper (which can be the readings that you will present.) The short analyses should consist of a summary of the paper’s central argument, an exposition of the formal model, a simplification of the formal model, a numerical example of a key result, and an evaluation/critique.

A referee report: A two-page referee report of the first draft of one of your classmates’ final papers. A first draft of the final paper (around 5 pages) will be due two weeks before the end of the semester so that we can spend the last meeting of the semester going over your referee reports on these drafts.

A final research paper: A 15-20 page paper that either i) that presents an original formal political argument, or ii) critically reviews a literature on a topic approved by the instructor.

Grading: The final grade will be composed as follows: class participation 20%, two written assignments 2x20%, and final paper 40%.

Academic Integrity: Plagiarism is the use of someone else’s work, words, or ideas as if they were your own. Plagiarism is a serious offense that is punished severely at Yale. The most common penalty is suspension from the University. Please be sure to review Yale’s Academic Integrity Policy.

Readings: Most instruction will be based on the following book; you may therefore consider purchasing it:

Most remaining course readings are accessible online. Any non-accessible readings will be posted on Canvas under “Files/PDFs of Readings.”

Topics and Readings:

I. Electoral competition

*Topics: The Downsian model of office-motivated candidates, Policy-motivated candidates with commitment, The citizen-candidate model, The probabilistic voting model, The differentiated candidates model*


Further Reading:


II. Political Agency

*Topics: Principal-agent problems, Electoral accountability, Career concerns, Media*


**Further Reading:**


Besley2006.


### III. Collective Action

*Topics: Public Goods, Voter Participation, Revolts, Poisson Games, Global Games*


### IV. Democratization and Regime Change

*Topics: Transitions to Democracy, Democratic Breakdowns*


**V. Bargaining and Conflict**

*Topics: Bargaining Models, Bargaining v. War, Wars of Attrition*


**Recommended Readings:**

Below, I list some references that may be useful as an introduction to the application of game theory in the social sciences.

**Some other game theory textbooks intended for political scientists:**


**Some other game theory textbooks (intended primarily for economists):**


**Some useful writings on the history, philosophy, and role of game theory in the social sciences:**


These speak more directly to the role of formal models in political science:


On the interplay between formal models and empirical research:


On the art and role of theoretical models more generally:


On the history of game theory:


On mathematical methods for applied formal modeling:

These are intended primarily for political scientists:


These are intended primarily for economists:


Some useful articles on how to present mathematical arguments correctly and intelligibly are:


