PS 2704: Formal Political Theory II

(Advanced Formal Models of Politics)

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Professor
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Class Meetings
Tuesday 1:00-2:25 and Thursday 4:00-5:25
4500 WW Posvar Hall

Office Hours
By appointment

This is the second course in the formal theory sequence for doctoral students in political science, which focuses on substantive applications of formal models. It builds on the basic knowledge of game theory developed in PS 2703 by examining major classes of models (sequential bargaining, signaling, principal-agent models, and repeated games) and surveying their applications. Time permitting, we will also consider alternatives to rational choice and issues in empirically evaluating formal models. The primary objectives are to familiarize students with “practical” (in a research sense) aspects of formal modeling and to develop the ability to read, understand, and critically evaluate papers in the formal theory literature. I do not expect that any of you will only do purely theoretical work during the course of your careers (since that’s not the nature of our program). Rather, my goal is that you will be well-prepared to use formal theory as an integral component of your research toolkit.

Students must be familiar with game theory at the level of PS 2703 and know how to solve for basic types of equilibrium concepts in simple games (i.e., Nash, subgame perfect, and perfect Bayesian). Exposure to game theory at an undergraduate level only (e.g., payoff tables and game trees) is insufficient.

Course Format and Requirements

Class sessions will primarily be lectures spent working through the models and the logic of the main results of the papers that we read, and I expect that you will have read each assigned paper carefully before coming to class. While I don’t expect you to fully understand a paper after the first reading, when reading a paper closely, you should try to get an idea of what the main research question is, a qualitative understanding of its main results, and be familiar with some of the notation and key assumptions. For the more complicated papers, we will often work through special cases or stylized examples of the general model that is presented.

I strongly believe that the only way to develop adequate technical skills is through “learning by doing.” This means that there will be problem sets. However, since the aim of the course is to
prepare you to use formal theory in a professional academic context, there will also be other requirements.

**Participation (10%)**: The readings are not easy, so this is a small reward for being prepared for class.

**Problem Sets (40%)**: There will be a problem set approximately every other week with problems based on the models that we cover in class. Your problem sets will be graded in terms of whether your answers are correct and how thoroughly you explain the logic. In fact, as long as you make a significant attempt to solve the problems, the latter is a much more important determinant of your grade. This is to encourage you to be transparent in presenting the logic of your work, which has two benefits. First, if you do make a mistake, it is much easier for me to figure out what you did wrong. Second, by forcing you to be thorough, you are less likely to make mistakes in the first place.

**Presentation(s) (25%)**: The very best way to understand a paper is to present it, so you will be responsible for presenting one or two papers on the syllabus to the rest of the class. The actual number of papers will depend on the pace of the course. In your presentation, you will: (1) summarize the key question, contribution, and main points, (2) present the model, and (3) provide the logic and intuition of the main results. You will also prepare a handout (or overhead slides) and write 3 homework problems corresponding to the paper as well as provide their solutions, which I will review and assign on the next problem set. (You are therefore exempt from the problems that you write.)

**Final paper (25%)**: Your paper may be purely theoretical and present an original model (including an extension of an existing model), or it may be an “EITM-style” paper in which you derive original predictions from an existing model and explain how the predictions should be tested (you don’t actually have to carry out the empirical analysis). In either case, the paper must contain a model and some sort of original derivation (i.e., proof). The paper must also contain a literature review that provides some substantive justification for the model as well as a discussion of related models. Your review of the substantive (non-formal) literature does not have to be extensive, and instead should be relatively focused. Even if there is no existing model on your exact topic, you can still discuss models that involve related theoretical principles. The model does not have to be complicated, nor does it have to be publication-quality, but it should be substantively relevant (e.g., by formalizing an informal idea or attempting to explain an empirical regularity). Ideally, the work that you do on the paper can later be incorporated into your PhD paper/MA thesis or dissertation.
Tentative Course Outline

The reading list contains a small sampling of the applications of game theory in political science chosen to illustrate bargaining, political competition, signaling, principal-agent relationships, and repeated games. I have tried to compile a selection that covers topics relevant to students in every subfield. Even if we do not study papers that are directly relevant to your specific research interests (e.g., because none exist), note that many of the general theoretical principles may nevertheless be applied to a variety of settings. I realize that the reading list is also quite ambitious, and a reasonable estimate is that we will do 1 or 2 papers each week. It is very likely that we will not cover everything on the list, and it would still be quite an accomplishment if we covered half of the readings.

The Role of Formal Models

NOTE: These readings are required for the first session, and must be done prior to class.

- Morton, Methods and Models, chapter 2
- Powell, In the Shadow of Power, pp. 23-38

Bargaining with Complete Information

Alternating Offers

- McCarty and Meirowitz, Political Game Theory, pp. 281-286
- Osborne, Introduction to Game Theory, pp. 465-477

Majority Rule

- McCarty and Meirowitz, pp. 286-294

Parliamentary Government

- Diermeier and Feddersen. 1998. “Cohesion in Legislatures and the Vote of Confidence Procedure” APSR

Bargaining with Incomplete Information

Veto Bargaining

- McCarty and Meirowitz, pp. 294-304
- Cameron. 2000. Veto Bargaining, chapter 4
Conflict

- Fearon. 1995. “Rationalist Explanations for War” *IO*
- Filson and Werner. 2002. “A Bargaining Model of War and Peace” *AJPS*

Lobbying and Influence

Informational Lobbying

- Potters and van Winden. 1992. “Lobbying and Asymmetric Information” *Public Choice*

Vote Buying

- Groseclose and Snyder. 1996. “Buying Supermajorities” *APSR*
- Diermeier and Myerson. 1999. “Bicameralism and its Consequences for the Internal Organization of Legislatures” *AER*

Learning and Information Transmission

Legislative Organization


Informing Voters

- Gordon, Huber, and Landa. 2007. “Challenger Entry and Voter Learning” *APSR*
- Snyder and Ting. 2002. “An Informational Rationale for Party Brand Names” *AJPS*

Principal-Agent Models and Institutional Design

Electoral Accountability


Bureaucracy

- Banks. 1989. “Agency Budgets, Cost Information, and Auditing.” *APSR*

Federalism

- Crémer and Palfrey. 1999. “Political Confederation.” *APSR*
Repeated Games and Dynamics

Institutions, Cooperation and Collective Action

- Fearon and Laitin. 1996. “Explaining Interethnic Cooperation” *APSR*

Leadership and Regime Change


Behavioral and Computational Models

- Bendor, Diermeier, and Ting. 2003. “A Behavioral Model of Turnout” *APSR*

Experimental and Empirical Tests of Models


Experimental Tests of Bargaining

- Diermeier and Gailmard. 2006. “Self-Interest, Inequality, and Entitlement in Majoritarian Decision-Making” *QJPS*

Comparing Alternative Theories

- Chiou and Rothenberg. 2003. “When Pivotal Politics Meets Partisan Politics” *AJPS*
Integrating Formal Theory and Statistical Analysis