Advanced Game Theory
ICPSR Summer Program 2016-Second Session

Jim Morrow   10:00-12:00
4456 ISR   2548 CC Little
615-3172
jdmorrow@umich.edu
CTools: https://ctools.umich.edu/gateway, then login

Office Hours: 2-4 in 209 Helen Newberry, by appointment, or just drop by my office in ISR

　　　　This course presents research that uses game theoretic models in detail. The object is to lead the student through how such models are used in research. The two goals of the course are building technical ability to solve and use such models in research and providing a deep understanding of key articles in this type of research.

　　　　The class covers the topics with a combination of sessions on general types of models and others which discuss a particular example of that model in the literature. Sessions that cover a general type of model will often be followed with a problem set. I have organized the course by topics in game theory and attempted to have the level of technical difficulty increase throughout the course. The papers also cover a range of topics across all subfields of political science in addition to a range of types of models. The focus of discussion will be the motivation of the model, the proof of the equilibrium, and how the paper might be extended.

　　　　I am open to the idea of covering other papers of particular interest to students at their suggestion. If there is a paper you always wanted to understand in detail, this is your chance. Please send any such suggestions to me as soon as possible. I have listed more papers than we will cover, with the class having some choice over which papers we cover.

　　　　Although the course seeks to teach modeling skills, it also assumes that the student has had at least one course in game theory already at least at the level of the Introduction to Game Theory course in the first session. Students should be aware that I do not intend to teach the basic concepts of game theory.

　　　　The course requires students to complete the homework assignments. We will also spend class time discussing student projects where they develop their own models, with Friday's session of each week set aside for those discussions. Students are encouraged to bring topics that they are interested in developing for this course. In some cases, students will be encouraged to develop a model on their topic and then write a short paper presenting it.

　　　　This course does not use a book. For those students who would like to purchase a high-level game theory book for their own reference, I have the following three recommendations:

　　　　Fudenberg and Tirole, *Game Theory*, MIT Press
　　　　McCarty and Meirowitz, *Political Game Theory*, Cambridge University Press
　　　　Osborne and Rubinstein, *A Course in Game Theory*, MIT Press

Schedule of Classes

July 19: Introductory Meeting: Review of Math and Basics of Game Theory
　　　　Problem Set 1 out

July 20: Backwards Induction, Bayesian Nash Equilibrium

> Dal Bó et al., "'Plata O Plomo?': Bribe and Punishment in a Theory of Political Influence." *American Political Science Review* 100(2006):41-53.
>
> Svolik , "Power Sharing and Leadership Dynamics in Authoritarian Regimes." *American Journal of Political Science* 53(2009):477-494.
>
> Verdier, "Multilateralism, Bilateralism, and Exclusion in the Nuclear Proliferation Regime." *International Organization* 62(2008):429-476.

July 21, 25: Signaling Games: Continuous Types

> Schultz, "Domestic Opposition and Signaling in International Crises." *American Political Science Review* 92(1998):829-844.
>
> Dal Bo and Powell, "A Model of Spoils Politics." *American Journal of Political Science* 53(2009):207-222.

July 22: First Discussion of Projects

> **Problem Set 1 due, Problem Set 2 out**

July 26: Bargaining Models

> Powell, "Bargaining in the Shadow of Power." *Games and Economic Behavior* 15(1996):239-267.
>
> **Problem Set 2 due, Problem Set 3 out**

July 27: Cheap Talk and Multiple Equilibria

> Morrow, "Modeling the Forms of International Cooperation." *International Organization* 48(1994):387-423.

July 28: Repeated Games, Folk Theorem

> Fearon and Laitin, "Explaining Interethnic Cooperation." *American Political Science Review* 90(1996):715-35, or
>
> Rosendorff, "Stability and Rigidity: Politics and Design of the WTO's Dispute Settlement Procedure." *American Political Science Review* 99(2005):389-400.

July 29: Second Discussion of Projects

> **Problem Set 3 due, Problem Set 4 out**

August 1: Commitment

> Powell, "The Inefficient Use of Power: Costly Conflict with Complete Information." *American Political Science Review* 98(2004):231-241.
>
> Myerson, "The Autocrat's Credibility Problem and the Foundations of the Constitutional State." *American Political Science Review* 102(2008):125-139.

August 2: Median Voter Models

> Groseclose and Snyder, "Buying Supermajorities." *American Political Science Review* 90(1996):303-315.

August 3: Stochastic Games and Markov Perfect Equilibrium
  Fearon, "Why Do Some Civil Wars Last So Much Longer Than Others?" *Journal of Peace Research* 41(2004):275-301.
  Problem Set 4 due, Problem Set 5 out

August 4: Selectorate Models; Microeconomic Models
  Bueno de Mesquita et al., *The Logic of Political Survival*, Ch. 3

August 5: Third Discussion of Projects

August 8: More Markov Perfect Equilibrium
  Acemoglu and Robinson, "A Theory of Political Transitions." *American Economic Review* 91(2001):938-963.
  Problem Set 5 due

August 9: War of Attrition Models
  Fearon, "Domestic Political Audiences and the Escalation of International Disputes." *American Political Science Review* 88(1994):577-592.

August 10: Global Games
  Bueno de Mesquita, "Regime Change and Revolutionary Entrepreneurs." *American Political Science Review* 104(2010):446-466.

August 11: Wrap Up