This course is designed to provide a thorough introduction to non-cooperative game theory for political science PhD students. The objective of the course is to cover the basic concepts of non-cooperative game theory rigorously while allowing time to discuss applications in many different fields of political science. Each theoretical topic will be matched with an application from the published political science literature. Course Requirements: Assignments and a final exam.

Course Books
Although they are not required (but encouraged) for the class, I will use both of these books as a basis for my lectures:
A cheaper alternative may be Osborne and Rubenstein: [http://arielrubinstein.tau.ac.il/books.html](http://arielrubinstein.tau.ac.il/books.html)
I will be offering a set of slides as well for each lecture on the course webpage.

Course Outline
The course will run for two weeks, divided into three sections.

Section 1: Normal Form
- Introduction to Games in Normal Form
- Nash Equilibrium
- Mixed Strategies
- Normal form games with continuous strategy spaces
- Bayesian Games
- Spatial model of electoral competition
- Median Voter Theorem
- International Trade and Cooperation
- Interest Group Contributions
- Prisoner’s Dilemma
- Jury Voting

Section 2: Extensive Form Games of Complete Information
- Introduction to Games in Extensive Form
- Subgame Perfect Equilibrium; backwards induction; “credible threats”
- Extensive form games with continuous strategy spaces
- Agenda Control
- Transition to Democracies
- Coalition Formation

Section 3: Incomplete Information and Repeated Games
- Bayesian Nash equilibrium
- Perfect Bayesian equilibrium
- Signaling Games: pooling and separating equilibria
- Entry Deterrence
- Lobbying
- Trade wars