科　目　名	担当教員	学期	単位
数理分析アドバンスト	栗崎　周平	集中講義(前期)	2

講義概要

This is a second graduate course on game theory in political science, with an emphasis on its application rather than advanced theory. We explore the use of formal, game theoretic models in the study of politics. The primary purpose of the course is two-fold: (1) the course will provide students with an understanding of the typical toolkit of formal modelers that are particularly useful for models of politics; (2) the course will offer selected coverage of the existing applied formal literature in political science, keeping an eye on how these tools and techniques can and have been applied to substantive problems in the study of political phenomena. Throughout the course, the emphasis will be on how to develop, solve, and analyze interesting models, and prove results. Formal modeling is re-presentation of complex reality in a stylized form. The process is not just abstraction of a phenomenon, but creative simplification and theorization as well argumentation. The clarity, or the logical consistency, of your argument is not the sole purpose of simplification; rather, valuable insights are the reason for modeling (which you may or may not obtain). That is, modeling is art more than science. The scientific aspect of modeling is easy to teach, but the artistic sense (or skills) of modeling is less so. While the former will be the focus of this class, I hope to cultivate the latter by working together with students.

The course meets once per week. Since this course is “part theory, part methods″ in nature, it will be “part lecture, part seminar″ in format. I will begin each class session with a lecture on the topic of the week, and replicate the model and the results step-by-step. We consider the choices that modelers need to make and the set of options that they have and we review approaches to constructing models and proving results.

Since this class is a follow-on to Professor Suga's course on Formal Theory in Political Science, the successful completion of his class, or its equivalent at the level of Robert Gibbons' Game Theory for Applied Economists (Princeton UP, 1992), is the prerequisite for this course. Some background in algebra and elementary probability theory is expected.

Instructions will be given either in English or Japanese, depending on students' needs.

シラバス

第１回　Introduction, Organization, & Warmup w/ Definitions
第２回　Simultaneous-Move Games: Median Voter Theorem
第３回　Dynamic Games and Backward Induction w/ Ordinal Preferences
第４回　Dynamic Games and Backward Induction w/ Cardinal Preferences
第５回　Incomplete information Games with Two Types: Bayes' Rule & Incentive Compatibility
第６回　Incomplete Information Games with Continuous Types: Refinements & Myerson-Satterthwaite Theorem
第７回　Incomplete Information Games with Continuous Types: Multiple Equilibria & Welfare Analysis
第８回　Cheap talk
第９回　Repeated Games: Repeated Prisoner's Dilemma w/ Complete Information
第10回　Repeated Games: Repeated Extensive-Form Game w/ Incomplete Information
第11回　Special Topics in Political Bargaining (Legislative or veto bargaining)
第12回　Special Topics in Political Bargaining (Trade or crisis bargaining)
第13回　Principal-Agent: Moral Hazard vs. Adverse Selection Model of Electoral Accountability
第14回　Information Aggregation: The Swing Voter's Curse
第15回　Student Presentations

教 科 書

There is no textbook for this class. The following books however are helpful:
・Nolan McCarty and Adam Meirowitz. 2007. Political Game Theory: An Introduction. New York: Cambridge University Press.
・William Thomson. 2001. A Guide for the Young Economist: Writing and Speaking Effectively about Economics. Cambridge, MA: MIT Press.

There will be a few journal articles each week, reflecting the fact that students are expected to engage in close reading of a model that we choose, and to be very much in command of every paper. Students may need to spend four to five times as much time on each paper as one would in a field seminar. Before the class each week, students are expected to write down the formal set-up of the model, list the assumptions and the notations used, and state (formally) the main results.

参考文献

See Above

評価方法

Assignments will come in three forms: (1) homework assignments (30%); (2) a research paper presenting a formal model (70%); and (3) the use of scientific editors such as LaTeX.

First, there will be three short problem sets to test understanding of new concepts as we cover them. These will be due in class in Lectures 4, 7, and 12 (subject to change). Problem sets will be handed out in class the week before they are due. Second, over the course of the semester, each student will develop and solve his/her own model of a strategic interaction in politics. The model will be developed incrementally and made more complex as the course progresses. The detailed requirements will be given on the first day of the class. Finally, I will not accept any work unless it is submitted using LaTeX or its equivalent.

関連URL	None
備　　考	