

# PH.D. PROGRAM IN POLITICAL ECONOMY

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Department Website: <http://politicaleconomy.uchicago.edu>

The field of political economy applies tools such as game theory and empirical methods for causal inference to the study of political institutions and behavior. The University of Chicago's new PhD program in political economy offers an extraordinary opportunity to develop these skills in preparation for a career in academia. Staffed by an outstanding group of faculty (<https://politicaleconomy.uchicago.edu/faculty/>) in the Department of Political Science and the Harris School of Public Policy, this program provides accelerated training in formal theory and statistical methods alongside deep engagement with political science.

## POLITICAL ECONOMY COURSES

### **PECO 40102. Political Economy I: Formal Models of Politics. 100 Units.**

This course provides an overview of formal models of politics, including models of electoral competition, coalition formation, political agency, and nondemocracy. Students must have completed the three-quarter sequence in Formal Political Theory or analogous coursework in game theory and mathematical methods. Enrollment of master's students is at the discretion of the instructor.

Instructor(s): Gehlbach, S Terms Offered: Winter

Equivalent Course(s): PPHA 40102, PLSC 41105

### **PECO 40103. Political Economy II: Theory and Evidence. 100 Units.**

This course provides an overview of the methods and substantive findings of credible empirical research in political economy with special attention to the interplay between theory and empirical testing. Students are expected to have taken prior coursework in econometrics or statistical methods. Enrollment of master's students is at the discretion of the instructor.

Prerequisite(s): PECO 40102

Equivalent Course(s): PPHA 40103

### **PECO 40104. Political Economy III: Advanced Topics. 100 Units.**

This course provides coverage of advanced topics in political economy. Many students will have already completed Political Economy I and II, which assume substantial coursework in game theory and empirical methods. Those who have not should consult with the instructor before enrolling. Enrollment of master's students is at the discretion of the instructor. In Spring 2024, the course will focus on the health of democracy. Specific topics will include electoral accountability, representation, voter competence, partisanship, polarization, democratic backsliding, public support for democracy, media bias, and campaign finance.

Prerequisite(s): PECO 40102, PECO 40103

Equivalent Course(s): PPHA 40104

### **PECO 40110. Formal Political Theory I. 100 Units.**

This is the first course in a three-quarter sequence in Formal Political Theory that introduces foundational concepts in decision theory and noncooperative game theory, the key mathematical tools needed for applied theory, and applications from political economy. This quarter focuses primarily on static games of complete and incomplete information and related solution concepts, including (Bayesian) Nash equilibrium and mixed-strategy Nash equilibrium. Students must have recently completed coursework in differential and integral calculus, optimization theory, and methods of mathematical proof. Enrollment of master's students is at the discretion of the instructor.

Terms Offered: Autumn

Equivalent Course(s): PLSC 40110, PPHA 40110

### **PECO 40111. Formal Political Theory II. 100 Units.**

This course follows on Formal Political Theory I, which it takes as a prerequisite. This quarter focuses on dynamic games of complete information and related solution concepts, including subgame-perfect Nash equilibrium and Markov perfect equilibrium. Applications include folk theorems for repeated games, bargaining models, and moral hazard.

Terms Offered: Winter

Equivalent Course(s): PLSC 40111, PPHA 40111

### **PECO 40112. Formal Political Theory III. 100 Units.**

This course follows on Formal Political Theory I and II, which it takes as prerequisite. This quarter focuses primarily on dynamic games of incomplete information and related solution concepts, including weak perfect Bayesian equilibrium and sequential equilibrium. Applications include models of costly signaling and cheap talk.

Terms Offered: Spring

Equivalent Course(s): PLSC 40112, PPHA 40112

### **PECO 40815. New Directions in Formal Theory. 100 Units.**

In this graduate seminar we will survey recent journal articles that develop formal (mathematical) theories of politics. The range of topics and tools we touch on will be broad. Topics include models of institutions, groups, and behavior, and will span American politics, comparative politics, and international relations. Tools include game theory, network analysis, simulation, axiomatic choice theory, and optimization theory. Our focus will be on what these models are theoretically doing: What they do and do not capture, what makes

one mathematical approach more compelling than another, and what we can ultimately learn from a highly stylized (and necessarily incomplete) mathematical representation of politics. The goal of the course is for each participant, including the professor, to emerge with a new research project.

Instructor(s): Z. Luo Terms Offered: Spring

Prerequisite(s): PLSC 30901, PLSC 31000 or consent of instructor.

Equivalent Course(s): PPHA 40815, PLSC 20815, PLSC 40815, PBPL 40815

**PECO 42000. Applied Econometrics I. 100 Units.**

This course is the first in a three part doctoral introduction to econometrics. The focus of this first course is the nature of statistical models of socioeconomic data with a primary focus on linear systems. The course is concerned with the relationship between data and the underlying probability structures from which they are generated and the construction and interpretation of models that study these structures.

Instructor(s): Durlauf, S Terms Offered: Autumn

Equivalent Course(s): PPHA 42000

**PECO 42100. Applied Econometrics II. 100 Units.**

Registration open to Harris PhD and MACRM students only. Must have completed PPHA 42000 Applied Econometrics I to enroll. PPHA 42100, the second in a three-part sequence, is a basic course in applied econometrics designed to provide students with the tools necessary to evaluate and conduct empirical research. It will focus on the analysis of theoretical econometric problems and the hands-on use of economic data. Topics will include non-linear estimation, multi-variate and simultaneous systems of equations, and qualitative and limited dependent variables. Some familiarity with linear algebra is strongly recommended.

Terms Offered: Winter

Equivalent Course(s): PPHA 42100

**PECO 42200. Applied Econometrics III. 100 Units.**

PPHA 42200, the final course in a three-part sequence, is a basic course in applied econometrics designed to provide students with the tools necessary to evaluate and conduct empirical research. Must have completed PPHA 42100 Applied Econometrics II to enroll.

Instructor(s): Ito, Koichiro Terms Offered: Spring

Equivalent Course(s): PPHA 42200

**PECO 56101. Seminar: Political Economy. 000 Units.**

This is a PE lunch/workshop; This course provides students with an opportunity to present their research to faculty and other PhD students. Faculty will also present their research. Only open to PhD students and is an audit only course.

Equivalent Course(s): PPHA 56101

**PECO 70000. Advanced Study: PECO. 300.00 Units.**

TBD

