PE I: Formal Models of Politics
PECO/PPHA 40102, PLSC 41105
Fall 2026

Instructor: Professor Scott Gehlbach, gehlbach@uchicago.edu
Teaching assistant: Hongding Zhu hongding@uchicago.edu
Lecture: Tuesday/Thursday, 11:00–12:20, Keller 2004
Discussion section: Friday 11:00–12:00, Pick 407
Office hours: Reserve at https://fantastical.app/gehlbach/office-hours

Overview

This course presents an overview of formal (primarily game-theoretic) models of politics, with an exclusive focus on theories of politics within, rather than between, countries. Some students take the course intending to use formal theory in their own work. Others anticipate a more empirical orientation, albeit one that is informed by foundational theories of domestic politics. The course speaks to both audiences.

Prerequisites

The material assumes a basic understanding of game theory, calculus, and optimization theory. Students who have taken any of the following should be well prepared: a) the three-course sequence in Formal Political Theory taught in the Political Economy PhD program, b) game theory at the level of Martin Osborne's *An Introduction to Game Theory* + Math 19520 (Mathematical Methods for Social Sciences) or equivalent, c) PhD microeconomic theory in any economics program.

Reading

We will use the second edition of my textbook, *Formal Models of Domestic Politics*. Do not purchase the book: I will provide a copy to everyone in class.

Grading

The final grade is based on:

- Problem sets (10 percent)
- Quiz #1 (30 percent)
- Quiz #2 (30 percent)
- Quiz #3 (30 percent)

Grading of problem sets is coarse: we will assign a check, check-minus, or zero. Check and check-minus both provide full credit; the only difference is in the information that the grade conveys. A zero means what it says: zero credit for the assignment, either because the problem set was not turned in or because a good-faith effort was not made to complete all exercises.

You should understand that seeking out solutions to problems (online, from previous students, with the help of AI, etc.) will likely do nothing to improve your problem-set grade, which in any event is worth only 10 percent of the total, but will do much to keep you from knowing the material well enough to receive good grades on the quizzes.

More on problem sets

Problem sets are due at the start of class on the Tuesday that we next meet. Your solutions to all problem sets should be written in LaTeX. For those new to LaTeX, an excellent point of entry is Overleaf—a free online editor. Overleaf itself provides a good introduction to LaTeX, which you can find at `https://www.overleaf.com/learn/latex/Learn_LaTeX_in_30_minutes`.

Most of you will find this course easier if you cooperate with your classmates. Problem sets especially lend themselves to collaboration. A particularly good strategy is to begin work on a problem set yourself, ask questions of your teaching assistant in discussion section on Friday, meet with one or more classmates over the weekend to talk through any remaining issues, and then finish your work. The final write-up should be your own.

Schedule

We have nine weeks and nine textbook chapters. We will cover one chapter each week.

September 29 and October 1
Chapter 1: Electoral Competition Under Certainty

October 6 and 8
Chapter 2: Electoral Competition Under Uncertainty

October 13 and 15
Chapter 3: Special Interest Politics

October 20 and 22
Chapter 4: Veto Players
Quiz 1: October 22 (covers Chapters 1, 2, and 3)

October 27 and 29
Chapter 5: Delegation

November 3 and 5
Chapter 6: Coalitions

November 10 and 12
Chapter 7: Political Agency
Quiz 2: November 12 (covers chapters 4, 5, and 6)

November 17 and 19
Chapter 8: Nondemocracy

November 24 and 26
No class: Thanksgiving

December 1 and 3 + Exam week
Chapter 9: Regime Change
Quiz #3: TBA (covers chapters 7, 8, and 9