

SOSC 13210

Social Science Inquiry: Formal Theory II

Winter 2026

Instructor: Professor Scott Gehlbach, gehlbach@uchicago.edu

Class time and location: Tuesday/Thursday, 2:00–3:20, Cobb 106

Office hours: Reserve at <https://fantastical.app/gehlbach/office-hours>

Course description

This course is the second quarter of the variant of Social Science Inquiry that is devoted to formal theory. It serves as a prerequisite to Social Science Inquiry: Formal Theory III. Together, the second and third quarters constitute a two-quarter sequence in game theory: the mathematical analysis of strategic decision making. This quarter focuses on models of complete information, in which players are perfectly informed about all relevant features of the strategic environment. Building on this foundational material, the second quarter also addresses a number of important questions in social theory.

Course requirements

There are three components to the course grade:

- Midterm exam: 35 percent
- Final exam: 45 percent
- Problem sets: 20 percent

Problem sets—five in total—are distributed one week before they are due. Grading of the problem sets is “coarse,” with each problem set receiving a check-plus (rare and exemplary effort), check (complete/good effort), check-minus (incomplete/poor effort), or zero (not turned in). Despite the coarseness, and notwithstanding their comparatively small direct contribution to your final grade, it is vitally important to take the problem sets seriously. The material is like a train: if you get off at one station, you will find it very difficult to get back on at the next. Do work in groups, but ideally only after you have already attempted to solve the problems on your own; the final writeup should be yours. Please see me when you have questions.

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 [here](#).

Reading

There are two primary texts for this course:

Osborne, Martin J. 2004. *An Introduction to Game Theory*. Oxford: Oxford University Press.

Ellingsen, Tore. 2024. *Institutional and Organizational Economics: A Behavioral Game theory Introduction*. Cambridge, UK: Polity Press.

Additional readings are listed below.

Special accommodations

The University of Chicago, and I personally, support the right of all enrolled students to a full and equal educational opportunity. The University's policies regarding students with disabilities are available [here](#). If you have a disability accommodation provided by the University's Student Disability Services Office, please let me know as soon as possible so that we can coordinate accommodations.

Academic integrity

You are a student at the University of Chicago. As such, you have assumed responsibility to uphold the highest standards of academic integrity and honesty. Among other things, this means that you will not represent another's work as your own or otherwise gain unfair academic advantage. I will report any plagiarism, cheating, or other form of academic dishonesty to the dean of students. I reserve the right to impose sanctions beyond those imposed by the dean, including a grade of zero on the assignment in question; this could result in a failing grade for the course.

Artificial intelligence

Artificial intelligence is unlikely to help you much on the problem sets, and I will not be monitoring its use. In any event, any shortcuts taken on the problem sets will primarily serve to leave you less prepared for the exams, which reward practice on technical material as well as understanding of substantive readings. The midterm exam (in class) and final exam (at a time to be assigned by the registrar) are administered in pencil-and-paper form.

Readings and course schedule

Readings in Ellingsen and Osborne are given in *chapter.section* format. All other readings are available in Canvas or, with one exception, at the link in the syllabus.

January 6: Orientation

January 8: The organizational challenge

Ellingsen 1

Acemoglu and Robinson, *Why Nations Fail*, Chapter 1

January 13: Sacrifice, selfishness, and rationality

Ellingsen 2, 3

Bannerjee and Duflo, *Poor Economics*, Chapter 3

January 15: Shared understandings and values

Ellingsen 5

Goldin, *Career and Family: Women's Century-Long Journey Toward Equity*,
Chapter 5

January 20 and 22: Static games

Ellingsen 4, 6 through “Interpreting Nash Equilibria”

Osborne 2

Problem set 1 distributed January 20, due January 27

January 27: Anarchy

Ellingsen 7

Hobbes, *Leviathan*, Part I, Chapter XIII

Problem set 2 distributed January 27, due February 3

January 29: The tragedy of the commons

Dutta, *Strategies and Games*, Chapter 7

Ostrom, Elinor. 2000. “Collective Action and the Evolution of Social Norms.”
Journal of Economic Perspectives. 14(3):137–158.

February 3 and 5—Multiple equilibria and mixed strategies

Osborne 4.1–4.5, 4.7–4.10, 4.12

Schelling, *The Strategy of Conflict*, Chapter 3

Problem set 3 distributed February 3, due February 10

February 10: Coordination

Ellingsen 9

Chwe, *Rational Ritual: Culture, Coordination and Common Knowledge*, Chapter 1

February 12

Midterm exam (in class)

February 17 and 19: Dynamic games

Ellingsen 6 from “Multi-Stage Games”

Osborne 5, 7.1

Problem set 4 distributed February 17, due February 24

February 24 and 26: Cooperation and repeated games

Ellingsen 11

Osborne 14

Problem set 5 distributed February 24, due March 3

March 3 and 5: Coercion and contracts

Ellingsen 12 and 13

Coase, Ronald H. 1960. “The Problem of Social Cost.” *Journal of Law and Economics*. 3:1–44.