

Strategy and Politics
PSCI 3225
MWF 10:00 - 10:50 AM, MUEN E113

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Hours: M 3:00–4:00 PM, or by appt.



Few political decisions are made in a vacuum. Most of the choices that political actors make involve strategic interaction, meaning that the consequences of those choices depend upon what other actors might do in response. When Congress passes a bill, they must consider whether the president is likely to sign or veto it. When one state threatens another in hopes of achieving some concession, it must consider how likely its opponent is to retaliate.

This course introduces students to the tools and concepts of game theory, a powerful and highly general approach to understanding how people make decisions in strategic settings. Game theory has applications to many fields of inquiry, including economics, sociology, biology, and, of course, political science. In this course, students will be introduced to the fundamentals of game-theoretic reasoning. We will focus particularly on those aspects of game theory that are most useful for understanding politics, and consider how game theory can guide and inform our understanding of real-world political phenomena.

Grading and Assignments:

Problem Sets	30%
Exam 1	20%
Exam 2	20%
Final	20%
Class Participation	10%

Students will be responsible for class participation and for two forms of graded assignments: short take-home problem sets and three exams. The exam questions will look very much like those from the problem sets, and you should think of the problem sets as opportunities to practice so that you will do well on the exams.

You may work on the problem sets together in small groups (3–5 people), and compare your work, but *only* after attempting them alone. Please note that the material in this class is a little technical and you will benefit enormously from repetition and practice. This is a class where you will learn by doing. As such, I *strongly, strongly* recommend that you take this requirement very seriously, and attempt the problem sets on your own before seeking help from others. If you simply copy someone else’s answers, you will not learn anything from puzzling over the problems and will probably do very poorly on the exams.

Because I don't want you to worry too much about doing poorly on any particular problem set, I will drop your lowest problem set grade from your final average.

The exams are in-class and closed book, and you will not be permitted to work together or use outside help.

A Note on Math: Though the advanced study of game theory does require some knowledge of higher math, in this introductory class we will not actually be doing very much mathematics, and most of what you will need I will teach as we go. The class will require deductive reasoning, but not advanced math. That said, if you are not comfortable with high-school level algebra (such as how to solve for x given a simple equation) you may struggle in this class. If you have concerns, come meet with me and we can talk about them.

Important Dates:

Friday, September 22	Exam 1
Wednesday, November 1	Exam 2
Saturday, December 16	Final

Exams 1 and 2 will take place during our normal class time. The final exam will be held on Saturday, Dec. 19th, from 4:30–7:00 PM.

Late Work Policy: Problem sets should be turned in to me in hard copy at the beginning of class on the announced due date. Problem sets may be turned in up to one class period late, at a 10 point penalty. We will go over answers to each problem set the class period after they are due, so any problem sets turned in after that date will receive a grade of zero. In the event of a documented serious illness or emergency that prevents you from completing a problem set, come see me and we will discuss a resolution.

Academic Honesty: Students are expected to adhere to standards of academic integrity set forth in the Colorado Honor Code. All incidents of academic misconduct, such as plagiarism or cheating, shall be reported to the Honor Code Council (honor@colorado.edu; 303-735-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). If you do not understand what behavior is considered plagiarism or cheating, or are not familiar with how to cite sources appropriately, please discuss it with me.

Accommodations: If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner (for exam accommodations provide your letter at least one week prior to the exam) so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities. Contact Disability Services at 303-492-8671 or by e-mail at dsinfo@colorado.edu. If you have a temporary medical condition or injury, see Temporary Medical Conditions: Injuries, Surgeries,

and Illnesses guidelines under Quick Links at Disability Services website and discuss your needs with me.

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. If you have a conflict with one of the scheduled exam dates in this class due to a religious observance, you may notify me at least two weeks in advance and we will arrange an alternative time.

Classroom Behavior: Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, color, culture, religion, creed, politics, veterans status, sexual orientation, gender, gender identity and gender expression, age, disability, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at <http://www.colorado.edu/policies/classbehavior.html> and at http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code.

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Syllabus Changes: This syllabus represents a general plan for the course; I reserve the right to deviate from it if necessary. Students will be given advance notification of any changes to the syllabus.

Course Schedule and Required Readings:

The course does not have a required textbook; my lectures are the primary source material. However, many students find a textbook beneficial, as it may provide a different perspective or explain things in alternate ways. If you prefer to work through a textbook alongside the class, the book below is recommended.

Morrow, James. 1994. *Game Theory for Political Scientists*. Princeton: Princeton University Press.

A general outline of topics to be covered, and the required readings for each topic, are listed below. Throughout the course, various readings will be made available on D2L. The following is organized by topic, rather than by specific dates, to allow for some flexibility. I will announce due dates for required readings and problem sets in class and on D2L.

Unit 1 Game Theory in Political Science
Recommended: Morrow Ch. 1

Unit 2 Utility and Decision Theory
Recommended: Morrow Ch. 2

Unit 3 Collective Choice and Preference Aggregation

EXAM 1 Friday, 9/22

Unit 4 Simple Games and the Nash Equilibrium
Recommended: Morrow Ch. 4 (pp. 73–104)

Unit 5 Prisoner’s Dilemma and Other Applications
Required: Poundstone (D2L)
Recommended: Morrow Ch. 3, Ch. 5 (pp. 121–128)

Unit 6 Extensive Form Games and Subgame Perfection
Required: Camerer and Thaler (D2L)
Recommended: Morrow Ch. 5 (pp. 128–145)

EXAM 2 Wednesday, 11/1

Unit 7 Imperfect Information and Bayes’ Rule

Unit 8 Deception and Signaling
Recommended: Morrow Ch. 6

Unit 9 Repeated Games and Cooperation
Required: Axelrod (D2L)
Recommended: Morrow Ch. 9 (pp. 260–291 only)

FINAL Saturday, 12/16, 4:30–7:00 PM