

PSCI 3225: Strategy & Politics

Tuesday & Thursday 3:30-4:45 PM

Instructor: Dalton Dorr

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Office Hours: Tuesdays & Wednesdays 2:00-3:00pm

Course Description

People make only a few decisions on a whim. The vast majority of the decisions we make are based upon some measure of structure and calculation. Political actors must consider the choices and preferences of other actors before strategically making their own decisions. 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.

Required Texts

Game Theory for Political Scientists, James Morrow (1994)

Prisoner's Dilemma, William Poundstone (1993)

Grading

Your final grade will be based on the following five criteria:

Participation 10%

Problem Sets 30%

Midterm Exam 1 20%

Midterm Exam 2 20%

Final Exam 20%

Participation - 10%

The participation grade is based upon a student's preparation, effort, and involvement in class discussion and activities. Students are expected to complete all assignments and readings prior to class and come ready to engage in the scheduled activities for the class period.

Problem Sets - 30%

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 two lowest problem set grades from your final average. However, you are still required to turn in every problem set. Any problem set that is not completed will result in a penalty of 2 points off of your final grade for the course.

Midterm Exams - 40%

Midterm 1 will be held on XXX. Midterm 2 will be held on XXX. The exams are in-class and closed book, and you will not be permitted to work together or use outside help.

Final Exam - 20%

The final exam will be held on Saturday, May 5 from 1:30 to 4:00 pm. The exam will contain multiple choice as well as short answer and essay format questions. The exam is comprehensive, which means it will cover material from the entire semester.

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.

Letter Grade Scale

A: >93; A-: 92-90

B+: 89-87; B: 86-83; B-: 82-80

C+: 79-77; C: 76-73; C-: 72-70

D+: 69-67; D: 66-63; D-: 62-60

F: <60

Assignments

Problem sets should be turned in as a hard copy at the start of class. Problem sets may be turned in up to one class period late, at a 20 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. However, even problem sets turned in late enough to receive a zero will still negate the 2 point non-completion penalty as long as they are attempted. 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.

Syllabus

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. Students are responsible for the contents outlined within this syllabus and any changes made thereafter.

Course Outline

Date	Content	Readings
Unit 1	Purpose & Structure	
Week 1	Game Theory in Political Science	Morrow Ch.1; Poundstone Ch.1
Week 2	Utility & Decision Theory	Morrow Ch.2
Week 3	Collective Choice & Preference Aggregation	
Week 4	Review & Midterm 1	
Unit 2	Applications & Equilibria	
Week 5	Normal Form Games	Morrow Ch.4 (pg. 73-104 only)
Week 6	Nash Equilibrium	
Week 7	Introduction to Mixed Strategies	Poundstone Ch.3
Week 8	More Mixed Strategy	Poundstone Ch.6-8 & 10-12
Week 9	Extensive Form Games	Morrow Ch.5
Week 10	Review & Midterm 2	
Unit 3	Information	
Week 11	Uncertainty	
Week 12	Incomplete Information	
Week 13	Signaling	Morrow Ch.6
Week 14	Repeated Games	Morrow Ch.9 (pg. 260-291 only)
Week 15	Applications & Review	Axelrod (1984, on D2L)
Final	Final Exam: May 5, 1:30-4:00 pm	

University Policies

Honor Code

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of

academic misconduct shall be reported to the Honor Code Council and those students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member involved and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Please refer to <http://honorcode.colorado.edu> to view the specific guidelines. If you have any questions related to this policy, please contact the Honor Code Council at honor@colorado.edu.

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, veteran's 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/studentaairs/judicialaairs/code.html>

Disability

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities. Contact: (303) 492-8671, Center for Community, N200, and <http://www.colorado.edu/disabilityservices>.

Religious Observances

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. Full details at: <http://www.colorado.edu/policies/facrelig.html>.

Discrimination and Harassment

The University of Colorado at Boulder Discrimination and Harassment Policy and Procedures, the University of Colorado Sexual Harassment Policy and Procedures, and the University of Colorado Conflict of Interest in Cases of Amorous Relationships Policy apply to all students, staff, and faculty. Any student, staff, or faculty member who believes s/he has been the subject of sexual harassment or discrimination or harassment based upon race, color, national origin, sex, age, disability, creed, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at (303) 492-2127, or the Office of Student Conduct (OSC) at (303) 492-5550. Information about the ODH, the above reference policies, and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at <http://www.colorado.edu/odh>.