

POLS 470
↳ POLS 409
add 509

1. Full catalog information for each course to be dual-listed, including the course numbers (or proposed course numbers), title, credits, semester offering (if applicable), prerequisites, and description. Dual-listed courses bear common numbers, e.g., 580 (480).

Pol S 409/Pol S 509. Political Game Theory. Cr. 3. Prereq: Econ 101.

Application of economics to political science in the study of nonmarket decision-making. Behavior of bureaucrats, elected officials, and voters. Market failure, collective action, representative democracies, direct democracies, logrolling, voter paradoxes, and game theory.

[Note: the current course number is Pol S 470; this would be changed upon dual-listing to avoid a conflict with the pre-existing, distinct Pol S 570.]

2. Graduate faculty status of the proposed instructor.

Robert Urbatsch (Associate Professor) is a member of the graduate faculty.

3. Number of the dual-listed course credits the department will permit to be used to meet the requirements for an advanced degree. This limit includes dual-listed courses taken in all departments.

The Department of Political Science does not have a department-wide limit on dual-listed credits, leaving the decision to the judgment of the specific student's Program of Study Committee.

4. The differential expectations for graduate students and undergraduates. What additional work will be required for graduate students enrolled in the course? Welcome inclusions: specific examples of the additional assignments with details about paper length; the number of additional readings; the length and frequency of oral presentations; portfolio expectations; indications of how these graduate requirements are weighted in the course grade (ex. 40% of final grade); comparisons with undergraduate expectations.

The primary additional requirement for graduate-level credit will be a research project entailing design and execution of a game-theory-based experiment. The proposed design of the experiment, grounded in previous scholarly work, would be one additional assignment for 500-level credit; the final write-up of the experiment (along with a 15-minute presentation of its results) would be another.

In its current, undergraduate-only form, four in-class examinations comprise 60% of the final grade; five problem sets another 25%; and participation in in-class discussions and activities the remaining 15%. The projected distribution of points for 500-level credit would reduce the problem-set and participation shares of the grade to 10% each and the exams to 45%, with the research design assignment being 10%, the final write-up 20%, and the in-class presentation 5%.

5. Reason(s) the course is considered sufficiently rigorous and of such an advanced nature as to challenge graduate students.

The course explores logical and mathematical methods used in political-science research – more advanced than those typically seen at an undergraduate level (but which arise frequently in scholarly articles assigned in other graduate-level courses in the department).

Roughly half the enrollees have actually been graduate students most times the course has been offered over the past decade. Having a 500-level section would allow the department to demand more of the active research expected of graduate students in a course.

6. Academic advantages and disadvantages accruing to graduate students taking this course with undergraduates.

The foremost advantage is that no comparable graduate-level course could otherwise be offered by the department, given the limited size of the faculty: a dual-listed course provides an opportunity that would otherwise not be available for graduate students to learn some important methodological tools and applications. Additionally, the larger class size afforded by a dual-listed course would provide more potential subjects for the required research-project experiment: a larger sample size of convenient pilot subjects for study.

The primary disadvantage is that the quality of in-class discussion could erode when it includes the less mature, advanced undergraduate population. Previous experience does not suggest that this is likely: undergraduate students in the class have traditionally been overwhelmingly those planning to go on to additional schooling after graduation, and have been of a high caliber.

7. The place of the course in a graduate student's program of study and why it is not considered a "remedial" undertaking intended to overcome deficiencies in the student's preparation for graduate work.

Knowledge of game theory is not something normally expected of students as they enter graduate programs in political science. It is, instead, a technique useful for certain fields and research questions that people tend to begin studying as they start to become writers rather than merely readers of research. Those who anticipate needing game-theoretic tools for their theses, then, would typically take a course like the proposed one as they plan their research.

8. The role of the course in an undergraduate's degree program and the academic qualifications undergraduates must have to take this course.

The game-theory course is an upper-level elective, not required for any particular concentration in political science. Formally, the course has few prerequisites, though the economics-based prerequisite, 400-level number, and reputation for including a lot of math have historically limited its appeal only to some of the highest-caliber undergraduates.

9. The name of the person writing the proposal.

Robert Urbatsch

Professor: Robert Urbatsch

rurbat@iastate.edu

Office: 551 Ross Hall

Office Hours: Mondays, 2:30–4:30 PM, or by appointment

Learning Objectives:

- Understand the strategic approach to analysis and problem-solving.
- Deepen knowledge of politics and other (non-market) decisionmaking processes.
- Develop skills in the methodological tools of game theory.

Texts: The course textbook is *Games of Strategy* (3rd edition, 2009) by Avinash Dixit, Susan Skeath, and David H. Reiley, Jr. Reading entries on the schedule overleaf list the chapters that should be read (including any appendices) before the associated class meeting. It is advisable to work ahead when the reading load is relatively light.

Grading: There will be four examinations. Of the first three, that with the lowest score will be worth 10% of the course grade while the two with higher scores are worth 15% each. The final is worth 20% of the grade. These will be open-book and open-note, although without calculators, computers, or group effort.

Problem sets – homework assignments – constitute 25% of the grade, and daily exercises another 5%. The exercises are due on Blackboard every class session beginning 13 January, except on days that either have an assignment due, feature examination, or are marked as “Exam Postmortem” on the schedule overleaf. The problem sets *may*, but need not, be done in groups (as, functionally, may the daily Blackboard exercises, though those must be submitted individually).

Participation in in-class discussions and activities accounts for the remaining 10% of the grade.

Academic Dishonesty: Cheating, plagiarism, or other conduct proscribed by the Student Handbook will receive condign punishment and be referred to the Dean of Students’ Office.

Accommodations: Please discuss any special needs with the teaching staff at the start of the semester or as soon as they arise. Those seeking accommodations based on disabilities should provide a completed Student Academic Accommodation Request form from the Disability Resources office (Student Services Building 1076, phone 515-294-7220). If a course requirement conflicts with your religious practices or observances, you may request reasonable accommodations in writing.

Equal Opportunity: Any student with concerns about any form of prohibited discrimination or harassment should contact the instructor, Student Assistance at 515-294-1020 or dso-sas@iastate.edu, or the Office of Equal Opportunity and Compliance at 515-294-7612.

Schedule: This is subject to change as student interest dictates.

<i>Date</i>	<i>Topic</i>	<i>Reading</i>	<i>Assignment</i>
9 January	Introduction	–	
11 January	What is Game Theory?	Ch. 1	
13 January	Parts of a Game	Ch. 2	
18 January	Backward Induction	Ch. 3	
20 January	Normal Form	Ch. 4	
23 January	Multiple Equilibria	–	
25 January	Continuous Strategies	Ch. 5	
27 January	Rationalizability	–	Problem Set 1
30 January	Mixed Strategies	Ch. 7	
1 February	More Mixing	–	
3 February	Even More Mixing	–	
6 February	Multiple Players	Ch. 6	
8 February	Sequence of Moves	–	
10 February	Agent-Based Modeling	–	Problem Set 2
13 February	More Options	Ch. 8	
15 February	Free-Riding	–	
17 February	Exam 1	–	Exam 1
20 February	Exam Postmortem	–	
22 February	Games of Information	Ch. 9	
24 February	More on Information	–	
27 February	Sending Signals	–	Problem Set 3
1 March	Strategic Moves	Ch. 10	
3 March	Exam 2	–	Exam 2
6 March	Exam Postmortem	–	
8 March	Repeating Games	Ch. 11	
10 March	To Infinity and Beyond	–	
20 March	Collective Action	Ch. 12	
22 March	Larger Collections	–	
24 March	Evolution	Ch. 13	Problem Set 4
27 March	Stability	–	
29 March	Exam 3	–	Exam 3
31 March	Exam Postmortem	–	
3 April	Contracts	Ch. 14	
5 April	Agendas	–	
7 April	Strategy in International Politics	Ch. 15	
10 April	Coalitions	–	
12 April	Public Choice	Ch. 16	
14 April	Impossibility	–	
17 April	Electoral Systems	–	
19 April	Auctions	Ch. 17	
21 April	Doing One's Bidding	–	Problem Set 5
24 April	Bargaining	Ch. 18	
26 April	Competition	–	
28 April	Shapley Values	Ch. 19	

The final will occur at the Registrar-decreed final time, tentatively 2:15 PM, Wednesday, 3 May.