Political Choice and Strategy
Political Science 274
Spring 2012

Lecture: M/W/F 9:55-10:45, Ingraham 120
Instructor: Dave Ohls, ohls@wisc.edu, North Hall 407, T 9:30-11:30 or by appointment
Teaching Assistant: Rick Loeza, loeza@wisc.edu, North Hall 121, W 3:30-4:30 and R 11:00-12:00
Course Website: mywebspace.wisc.edu/ohls/web/274s12.html

Overview
Politics is strategic interaction among individual actors: citizens, politicians, interest groups, organizations, and states. Leaders make choices about policies and actions taking into account the information they have and the likely responses and actions of others, and the outcomes which will result from the aggregation of all of these individual choices. Policies on taxation and social spending, war and peace, regulation and liberty result from this process. The objective of this course to enable students to understand this strategic interaction, and to think about how it produces the (sometimes counterintuitive) outcomes observed in the news, in their future study of politics, and in their careers.

This course introduces a rational choice approach to politics, using formal political theory (game theory). This approach involves the analysis of political choice and strategy:

- **analysis**: Analysis involves breaking complex arguments and decisions down into component parts and precisely generating conclusions based on those individual pieces, building up to an overall conclusion for the entire question.
- **political**: Politics is the process of individuals interacting in a social group context making decisions governing their shared environment, through some means of aggregating their preferences and actions.
- **choice**: Choice refers to the ability of individuals to rationally understand their preferences over possible outcomes and take purposeful actions to achieve their best outcome possible, given the circumstances and information available to them.
- **strategy**: Strategy involves taking into account the likely choices and actions of other actors in choosing one’s own action, taking seriously that this interaction and aggregating of actions leads to outcomes.

The arguments and techniques used in formal political theory, and taught in this course, have largely been developed using the language of mathematics. Mathematical notation, logic, and reasoning serve as useful tools for expressing concepts precisely and clearly, and determining which conclusions follow from which assumptions. Although no formal mathematical background above high school algebra will be assumed for this course, a familiarity and comfort with mathematical reasoning will be useful in doing well in this course.
Assignments and Grading

Grades for the course will be assigned according to completion of all course assignments:

- Participation: 5%
- Problem Sets: 20% total (5% each)
- Exams: 50% total (25% each)
- Final Prospectus and Paper: 25%

Sections are an important and required element of the course, will be critical to successfully learning the material. In addition to the small grade for participation in sections, this will be taken into account to adjust final grades for students near the borderline between grade ranges. In order to receive a passing grade, students must complete all assignments (i.e. never attending section, turning in no problem sets, skipping an exam, or failing to hand in the final paper will lead to a failing grade).

There will be four problem sets, each worth 5% of the total grade, due on February 17, March 9, April 11, and April 22 at the beginning of class. These are important for practicing the techniques learned in class and getting feedback on your performance prior to the exams. Although the percentage of the grade for each is relatively small, successful completion of problem sets is indispensable to perform well on exams. There will be two in-lecture exams on March 16 and May 4, each worth 25% of the total grade. These will test your ability to apply the skills learned in that section of the course (they will be non-cumulative, except in the sense that the material itself is cumulative). There is also a final project, worth 25% of the total grade, in which you will use the methods learned in the course to analyze a particular strategic political interaction of your choice in a short (5-7 page) paper. The prospectus outlining a topic for these will be due April 9 at 9:55am, and the final paper due May 16 at 3pm. More information about this assignment will be provided.

Except in extraordinary and unavoidable circumstances, there will be no makeup exams or late assignments accepted. Please take note of all due dates and make plans around them. Any requests for accommodations must be made at least one week in advance to be considered.

If you feel that any assignment has been graded incorrectly, you may request that it be regraded. You must provide a cover letter indicating the reason for your concern, and I will regrade the entire assignment in question (meaning the revised grade may be higher or lower than what you originally received).

Academic Integrity

I will have zero tolerance for any instances of cheating on exams or other academic misconduct. University of Wisconsin policies and penalties are discussed at http://students.wisc.edu/saja/misconduct/UWS14.html. Expect violations of these rules to result in a failing grade for the course and a written reprimand.

Disabilities

I will make every effort to enable full participation in this course by all students. Students needing special accommodations should contact me as early as possible (within the first three weeks of the semester, or as soon as those needs arise) to discuss how they can be met within the structure of the course. Every effort will be made to maintain the confidentiality of personal information. You may also wish to contact the McBurney Disability Resource Center, 1305 Linden Drive, 608.263.2741, if you have questions about campus policies and services.
Course Resources

There is no required textbook for this course. Required readings will be uploaded to Learn@UW, and are indicated on the syllabus. In addition, it is strongly encouraged that you purchase one of two recommended texts: Osborne’s *An Introduction to Game Theory* (Oxford University Press, 2004) or Dixit, Skeath, and Reiley’s *Games of Strategy, Third Edition* (W.W. Norton, 2009), both of which are available at the UW bookstore and on reserve at College Library. Lectures will be largely self contained, but you are likely to find it useful and necessary at times to read through the material in advance and review it afterward. Osborne is a somewhat more advanced and technical treatment that may be well suited for students with a stronger mathematical background. Dixit, Skeath, and Reiley is somewhat more accessible, though uses different terminology and explains some concepts in different ways than we will in this course. Optional readings from these textbooks are indicated in parenthesis on the syllabus.

The course website is at mywebspace.wisc.edu/ohls/web/274s12.html. Lecture slides, problem sets, and any other course materials will be posted to Learn@UW (learnuw.wisc.edu).

Schedule

Generally, lectures on Mondays and Wednesdays will focus on introducing new concepts and explaining new material, while lectures on Fridays will focus on applying that material through interactive simulations or applications to real-world examples.

I. Foundations

**Week 1: Individual Choice**
- *Shepsle pp.3-37*
- *(Osborne pp.1-8; Dixit, Skeath, and Reiley pp.27-31)*
- *Aldrich pp.246-252*

January 23: Course Overview
January 25: Preferences, Rationality, and Choice
January 27: Application: Voting and Turnout

**Week 2: Social Choice**
- *Shepsle pp.41-89*
- *Riker pp.10-17*

January 30: Preference Aggregation
February 1: Arrow’s Theorem
February 3: Application: Social Cycling and the Seventeenth Amendment

**Week 3: Spatial Models**
- *Shepsle pp.90-110*
- *Shepsle pp.123-138*

February 6: Spatial Models
February 8: Single Peaked Preferences and the Median Voter Theorem
February 10: Application: Legislative Procedures and Healthcare Policy
II. Strategic Choice: Simultaneous Contexts

Week 4: Strategic Games
- *Osborne pp.13-21*
- *(Osborne pp.13-21, 45-50; Dixit, Skeath, and Reiley pp.3-16, 89-92, 97-104)*
- *Akerlof and Shiller pp.16-20*

February 13: Strategic Games and Strategies
February 15: Dominated Strategies and Iterated Strict Dominance
February 17: Application: Stock Prices and Candidate Selection (PROBLEM SET 1 DUE)

Week 5: Equilibrium: Discrete Strategies
- *Osborne pp.21-35*
- *(Osborne pp.21-45; Dixit, Skeath, and Reiley pp.92-96, 104-105, 111-118)*
- *Stein pp.299-324*

February 20: Equilibrium in Discrete Action Space Games
February 22: Equilibrium
February 24: Application: Coordination and Collaboration through International Regimes

Week 6: Equilibrium: Continuous Strategies
- *(Dixit, Skeath, and Reiley pp.134-142)*
- *Osborne pp.80-88*

February 27: Equilibrium in Continuous Action Space Games
February 29: Equilibrium
March 2: Application: Defense Contract Auctions

Week 7: Mixed-Strategy Equilibrium
- *(Osborne pp.106-119; Dixit, Skeath, and Reiley pp.213-222, 226-230)*
- *Kydd pp.458-471*

March 5: Mixed-Strategy Equilibrium
March 7: Equilibrium
March 9: Application: Counterterrorism and Profiling (PROBLEM SET 2 DUE)

Week 8: Review and Exam
March 12: Practice Problems
March 14: Exam Review
March 16: FIRST EXAM

III. Strategic Choice: Sequential Contexts

Week 9: Extensive Games
- *Osborne pp.153-163*
- *(Osborne pp.153-163; Dixit, Skeath, and Reiley pp.47-52)*
- *Riker pp.114-128*

March 19: Extensive Games
March 21: Equilibrium in Extensive Games
March 23: Application: Sophisticated Voting and Legislative Amendments
Week 10: Subgame-Perfect Equilibrium
- *Osborne* pp.164-179; *Dixit, Skeath, and Reiley* pp.52-63
- *Schelling* pp.35-55, pp.78-86, pp.92-116

March 26: Backward Induction and Subgame-Perfect Equilibrium
March 28: Subgame-Perfect Equilibrium
March 30: Application: Deterrence and Compellence (FINAL PAPER PROSPECTUS DUE)

Spring Break: March 31-April 8

Week 11: Repeated Games and Discounting
- *Osborne* pp.419-449; *Dixit, Skeath, and Reiley* pp.397-406
- *Ostrom* pp.101-120

April 9: Finitely Repeated Games
April 11: Infinitely Repeated Games
April 13: Application: Cooperation in International Institutions (PROBLEM SET 3 DUE)

IV. Strategic Choice Under Uncertainty

Week 12: Extensive Games with Imperfect Information
- *Osborne* pp.313-323
- *Osborne* pp.313-323; *Dixit, Skeath, and Reiley* pp.307-322
- *Kennedy* pp.1-34

April 16: Extensive Games with Imperfect Information
April 18: Beliefs, Information, and Uncertainty
April 20: Application: Cuban Missile Crisis

Week 13: Sequential Equilibrium
- *Osborne* pp.323-331
- *Spence* pp.355-368
- *Osborne* pp.331-342; *Dixit, Skeath, and Reiley* pp.323-341

April 23: Sequential Rationality and Updating Beliefs
April 25: Bayes’ Rule
April 27: Application: Candidate Signaling (PROBLEM SET 4 DUE)

Week 14: Review and Exam
April 30: Practice Problems
May 2: Exam Review
May 4: SECOND EXAM

V. Extensions and Conclusions

Week 15: Extensions and Conclusions
- *Reading TBD*

May 7: Experimental Game Theory
May 9: Evolutionary Game Theory
May 11: Concluding Discussion

FINAL PAPER DUE: May 16, 3pm