Syllabus for Poli Sci 112A:
Economic Theories of Political Behavior
(Last updated January 8, 2018)

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Course location: CSB 004
Course time: MWF 3-3:50
Office hours: Mon. and Wed., 4-5

Course description

This course introduces students to game theory and its uses in political science. Topics covered include the concept of Nash equilibrium and its application to the study of electoral competition and collective action problems.

Prerequisites

There are no course prerequisites. The course presupposes no previous knowledge of game theory or any mathematics beyond what is typically taught in high school. Nonetheless, the course will be challenging, because abstract thought and logical reasoning are hard.

Required materials

We will spend most or all of the course on chapters 1, 2, and 3 of Martin Osborne’s *An Introduction to Game Theory*. These chapters are available on Osborne’s website:

https://www.economics.utoronto.ca/osborne/igt/

Assignments and grades

The final grade will consist of scores on weekly quizzes (40%), the first midterm (30%), and the final exam (30%).

There will be regular problem sets, which will not be graded but which will form the basis for weekly quizzes. Students are strongly encouraged to work on the problem sets in groups, but the quiz questions must be answered individually, without help from others. The quizzes will be conducted in class. Students will have access to their textbooks, notes, and completed problem sets. The quiz questions will always be questions about the problem sets. It will be impossible to do well on the quizzes if you do not do the problem sets.
Schedule


   - Lecture notes (“Lecture 2 - math primer”)

   - Osborne 1.1, 1.2
   - Quiz on Problem Set 1

No class Jan. 15: Martin Luther King Jr. Day.

   - Osborne 2.1

   - Osborne 2.2
   - Quiz on Problem Set 2

   - Osborne 2.3–2.5

   - Osborne 2.6

   - Osborne 2.7.1-2.7.6
   - Quiz on Problem Set 3

   - Osborne 2.7.7

- Osborne 2.7.9

[11] **Feb. 2.** Dominant strategies
   - Osborne 2.9.1, 2.9.2
   - **Quiz on Problem Set 4**

[12] **Feb. 5.** Voting and other collective decision-making games
   - Osborne 2.9.3, 2.9.4

[13] **Feb. 7.** Weakly dominant strategies in voting games
   - Osborne 2.9.3, 2.9.4

[14] **Feb. 9.** Weakly dominant strategies in voting games
   - Osborne 2.9.3, 2.9.4
   - **Quiz on Problem Set 5**

[15] **Feb. 12.** The Hotelling (or Downsian) model of electoral competition
   - Osborne 3.3, through Exercise 72.1

[16] **Feb. 14.** More models of electoral competition
   - Exercise 73.1 (candidates who care about location of winning position) in Osborne

[17] **Feb. 16.** Review session for first midterm exam

[18] **Feb. 19.** Presidents’ Day, no class.

[19] **Feb. 21.** First midterm exam

[20] **Feb. 23.** Extensive-form games
   - Osborne 5.1, 5.2

[21] **Feb. 26.** Nash equilibria to extensive-form games
   - **Quiz on Problem Set 5**
   - Osborne 5.3
[22] **Feb. 28.** Subgame perfect Nash equilibrium
   - Osborne 5.4

[23] **March 2.** Backwards induction
   - Osborne 5.5

[24] **March 5.** The ultimatum game
   - Osborne 6.1.1

[25] **March 7.** Agenda control
   - Osborne 6.1.2

[26] **March 9.** Agenda control
   - Osborne 6.1.3

[27] **March 12.** Ultimatum game with discounted payoffs
   - Osborne 6.3, up until exercise 196.1
   - **Quiz on Problem Set 6**

[28] **March 14, 16.** Review, catch up.