

PHIL 308S: Voting Theory and Fair Division (Fall 2012)

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Office Hours: TTH 11:00 - 12:00
Class Times: TTH 4:30 - 5:45
Class Location: SKN 1112

Course Description

Much of our daily lives are spent taking part in various types of social procedures. Examples range from voting in a national election to deliberating with others in small committees. Many interesting philosophical and mathematical issues arise when we carefully examine our group decision-making processes. For example, suppose that a group of friends are deciding where to go for dinner. If everyone agrees on which restaurant is best, then it is obvious where to go. But, how should the friends decide where to go if they have different opinions about which restaurant is best?

The course will examine the main topics in voting theory. Topics include a brief history of the theory of voting, a survey of different voting methods (such as plurality rule, Borda count, Approval voting, plurality with runoff), Voting paradoxes (the Condorcet Paradox, multiple election paradox, the no-show paradox), and axiomatic characterization of voting rules. The second part of the course will introduce the general theory of fair division (including cake-cutting algorithms and an introduction to the theory of social welfare).

This is an introductory course. Students will come away from this course with a working knowledge of voting theory and the theory of fair division.

Literature

The required texts for the course (the first two are available at the bookstore and the last one accessible via the webpage) are

- Kenneth A. Shepsle, *Analyzing Politics: Rationality, Behavior and Institutions*, 2nd Edition, W. W. Norton & Company, 2010.

- Steven Brams and Alan Taylor, *Fair Division: From Cake-Cutting to Dispute Resolution*, Cambridge University Press, 1996.
- Eric Pacuit, Voting Methods (plato.stanford.edu/entries/voting-methods/) Stanford Encyclopedia of Philosophy, 2011.

In addition, we will read excerpts from recent published papers (these will be made available on the website).

Prerequisites

Six hours of philosophy or permission of the instructor.

Attendance

A very important part of the course is the discussion we will have during class. Thus, it is important that you attend all of the lectures.

Course Webpage

The current course webpage is

<http://ai.stanford.edu/~epacuit/classes/voting-fall2012.html>

Be sure to regularly consult this course web page for the up-to-date course schedule, additional reading materials, announcement, etc.

Note that I am transitioning my website to a new host, including all my course pages. Sometime during the end of September/beginning of October, the course webpage will be moved to <http://pacuit.org/courses/phil370>

Grading Policy

Your final grade will be based on problem sets (approximately 4-6 assigned throughout the semester), a short midterm paper (5-10 pages on a paradox of voting, due on **October 23**), a final paper (10-12 pages) on any topic

we discussed during the semester (due **December 20**), and an in-class final exam. Your final grade will be calculated as follows: The problem sets count for 30% of your grade, the midterm paper counts for 20%, the final paper counts for 30% and the final exam counts for 20%.

For the problem sets, you are encouraged to work in small groups. You may discuss the problems with one another or with me as much as you want. *But you must always do the final write-up completely on you own.* A good strategy when working together is to use a blackboard and erase it completely before writing up your (separate) answers. Please write the name of your discussion partner(s) on the front page of your assignments.