

Optimized Democracy

Fall 2025

Course Overview

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“Politics is solving today's problems
with yesterday's tools.”



Objective

Provide students with a rigorous perspective on, and a technical toolbox for, the design of better democratic systems

SYLLABUS

Voting Rules	Committee elections
The axiomatic approach	Participatory budgeting
Arrow and friends	Sortition
Distortion	The Electoral College
Strategic manipulation	Apportionment in the 19 th century
Restricted preferences	Apportionment in the 20 th century
Quadratic voting and funding	Identifying gerrymandered maps
Electoral competition	Fair redistricting
The epistemic approach	AI-supported deliberation
Liquid democracy	

 New lectures

 Overlap with CS 1360

EXAMPLES



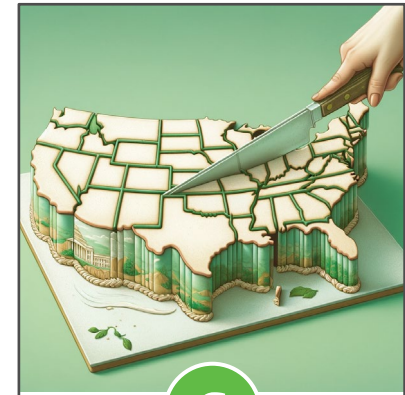
A

Participatory
budgeting



B

Citizens'
assemblies



C

Fair
redistricting

REQUIREMENTS

- Four theoretical homework assignments ($10\% \times 4 = 40\%$)
- Participation (15%), in the sense of **active participation in class**
- Research project (45%), which should raise novel technical questions and provide some nontrivial answers
- You must avoid using AI for the assignments, but you may use AI for the project

LOGISTICS

- Course website is public
- Sign up for Ed through the course website
- TFs: Yichen Huang and Itai Shapira
- My office hours by appointment
- All lectures are recorded
- If you are enrolled and “shopping,” please decide by the end of the week to allow other students to enroll