Introduction to Formal Political Theory

This course is an introduction to formal modelling in political science. We will cover the “social choice” approach to social decision-making, including Arrow’s impossibility theorem, Plott’s theorem on symmetry conditions at core points, and McKelvey’s theorem on majority cycles. We will then examine connections between the social choice approach and some game-theoretic analyses of politics.

There will be homework exercises and a final.

There are two books assigned for the class, and I will distribute a copy of a manuscript by Richard McKelvey.


The outline of the course is basically like this. Due to time constraints, however, we may be forced to cover one or more of these topics more hastily than we would like.

1. Preference and Choice
   - Austen-Smith and Banks, Chapter 1
   - McKelvey, Chapter 1
   - Ordeshook, Sections 1.1-1.4
2. Majority Rule and Social Decision-making
   - Austen-Smith and Banks, Section 3.5 (this will be difficult to read until we’ve covered more material)
   - McKelvey, Chapter 2

3. Impossibility Theorems of Arrow, Gibbard, and Nakamura
   - Austen-Smith and Banks, Chapters 2-3
   - McKelvey, Chapter 3
   - Ordeshook, Sections 2.1-2.2

4. The One-dimensional Spatial Model: Single-peakedness and Black’s Theorem
   - Austen-Smith and Banks, Chapter 4
   - McKelvey, Section 5.4
   - Ordeshook, Section 4.6

5. The Finite Model: Solutions for Tournaments

   - Austen-Smith and Banks, Chapters 5 and 6
   - McKelvey, Chapters 5 and 6
   - Ordeshook, Sections 2.3 and 4.7
   - Ordeshook, Section 4.9

7. Downsian Elections, Nash Equilibrium, and Weak Dominance
   - Ordeshook, Sections 4.6-4.7

2
8. Manipulability of Voting Systems

- McKelvey, Chapter 4

9. Voting in Agendas


10. Bargaining in Legislatures