

Individual and Collective Choice

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This course will cover topics in Social Choice, Mechanism Design and Cooperative Games. There will be four/five problem sets which will be graded. There will be a mid-term and final. For the social choice part of the course, lecture notes will be available on my website. There are several text-books available for the Cooperative Games part of the course. These include:

- Game Theory by Maschler, Solan and Zamir.
- Axioms of Cooperative Decision Making by Moulin.
- A Course on Cooperative Game Theory by Chakravarty, Mitra and Sarkar.

Topics: Social Choice Theory

- Ordinal Aggregation: The Arrow Impossibility Theorem.
- Social Quasi-Orderings: The Gibbard Oligarchy Theorem.
- Domain Restrictions: Single-Peakedness and The Median Voter Theorem.
- The enriched information setting: cardinal measurability and interpersonal comparability.
 - A geometric approach to Arrow's Theorem.
 - Rawlsian Maximin
 - Utilitarianism.

Mechanism Design: Complete Information

- The implementation problem.
- Maskin's Theorem on Nash implementation.
- Sub-game perfect Nash implementation.

Cooperative Games

- Transferable utility games.
 - The core - existence and the Bondereva-Shapley Theorem.
 - The Shapley value - characterization.
 - The Shapley-Shubik power index.
 - Convex games.
 - The Bargaining Set and the Nucleolus.
- Axiomatic Bargaining Theory
 - The Nash bargaining solution.
 - The Kalai-Smorodinsky solution.
 - The Egalitarian solution.
- Bankruptcy problems.