## Game Theory 2 – Exam Topics, Spring 2021

- 1. Cooperative games: matching game, spanning tree game. Core, Shapley value, Shapley-Shubik power index.
- 2. Convex games, reduced costs in the spanning tree game. The nucleolus.
- 3. Vickrey-Clarke-Groves mechanism, sponsored search, knapsack auction
- 4. Myerson's theorem, optimal auctions. Ascending price auction for multiple identical items.
- 5. Fair division, envy-free mechanisms, rent partitioning.
- 6. Voting mechanisms: Arrow's impossibility theorem, Gibbard-Satterthwaite theorem (without proof), majority judgement (Balinski-Laraki).
- 7. Non-atomic and atomic congestion games, the price of anarchy and the price of stability.
- 8. Games in extensive form, subgame-prefect equilibrium, sequential equilibrium.