SS 205C Spring 2022
Foundations of Economics

1. **Instructor:** Farzad Pourbabaee
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   Classroom: Baxter 125
   Lectures: M/W 10:30-12

2. **Course Description:** This course covers a range of topics on Social Choice Theory, Incentives and Mechanism Design, Auction Theory, Asymmetric Information (Adverse Selection and Moral Hazard) and Contract Theory.

3. **Recommended Textbooks:**
- A. Mas-Colell, M. D. Whinston and J. R. Green, "Microeconomic Theory", 1995. (MWG).
- T. Börgers, "An Introduction to the Theory of Mechanism Design", 2015. (B)
- V. Krishna, "Auction Theory", 2nd Edition. (K)

Tentative Outline:

Week 1:
- Overview of the course including the topics to be covered and announcing the grading scheme.
- Sections 21.A and 21.B of (MWG).
- Sections 21.D and 21.E of (MWG).
- Recommended: E. Maskin, "Nash Equilibrium and Welfare Optimality", The Review of Economic Studies, 1999.

Week 2:
- Single agent selling mechanism; direct mechanisms; revelation principle; revenue equivalence theorem; IC and IR conditions: Chapter 2 of (B).

Week 3:
- Linear programming approach to mechanism design.
- Nonlinear pricing and expected revenue maximization: Chapter 2 of (B).
- Envelope Theorem: P. Milgorm and I. Segal, "Envelope Theorems for Arbitrary Choice Sets", Econometrica, 2003.

Week 4:

- Sections 23.B and 23.C of (MWG).
- Standard Mechanism Design setup; efficiency concepts.
- Examples from abstract social choice, public project and private good allocation.
- Definitions of direct mechanism and truthful implementation.
- Introducing dominant strategy implementation.

Week 5:

- Sections 23.C and 23.D of (MWG).
- Cont. dominant strategy implementation: revelation principle and Groves Mechanism.
- Gibbard-Satterthwaite Theorem.
- Bayesian implementation: revelation principle and expected externality mechanism.