Advanced Microeconomic Theory:
Economics 521b
Spring 2009

Time and Location: T., Th., 9:00-10:30, 28 Hillhouse, B1.

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Program. This course covers selected topics in the economics of information and uncertainty. The first part of the course will cover the theory of mechanism design and some of its applications. The second part of the course will cover some recent papers in communication, learning and networks.

Course requirements. This course has four basic requirements. They are: (i) reading the assigned papers before the presentation in class, (ii) solving the problem sets, (iii) presenting one or two research paper and (iv) writing a term paper. The assignments will be given weekly or biweekly. Class participation, assignments, and the term paper will jointly determine the final grade.

Required texts. There is no textbook for this course, however the following books should be in the library of every (micro-)economist: Mas-Collel, Whinston, and Green (1995), Fudenberg and Tirole (1991), Myerson (1991) and Osborne and Rubinstein (1994). Selected sections in these books will often constitute background reading.

Readings. The current reading list will be completed as the class proceeds.
Schedule

1. 1/13 DB **Mechanism Design:** (i) Implementation via dominant strategies and Bayesian Nash equilibrium; (ii) The revelation principle;

2. 1/15 DB (iii) Implementation of efficient outcomes.

3. 1/20 DB **Auction Theory:** (i) First and second price auctions;

4. 1/22 DB (ii) Design of optimal auctions.

5. 1/27 DB **Bilateral Trading:** (i) Two person double auctions; (ii) Efficient mechanisms for bilateral trading.

6. 1/29 DB **Implementation Theory:** Unique implementation in Nash and subgame perfect equilibria.

7. 2/3 FK Matching.

8. 2/5 FK Matching.

9. 2/10 DB **Games with Communication:** (i) Correlated and communication equilibria.

10. 2/12 DB (ii) Email game

11. 2/17 JV **Mechanism Design with Interdependent Values:** (i) Correlated values.

12. 2/19 JV (ii) Interdependent values.

13. 2/24 JV **Information Aggregation**

14. 2/26 JV **Value of Information and Information Acquisition**

15. 3/3 JV **Information Acquisition in Mechanisms:** (i) Auctions

16. 3/5 JV (ii) Games without transfers.

17. 3/24 JV **Bayesian Learning:** (i) General results.

18. 3/26 JV (ii) Multi-Armed Bandit problems
19. 3/31 JV Strategic Experimentation (i) Team problems.

20. 4/2 JV (ii) In markets.

21. 4/7 JV Social Learning: (i) Herding models.

22. 4/9 JV (ii) Timing games.

23. 4/14 DB Learning and Communication in Networks: Jackson

24. 4/16 DB Bayesian Networks, Kalai.

25. 4/21 DB Duffie and Manso: Information Percolation

26. 4/23 DB Acemoglu and Asuman: Bayesian Networks
Reading List

I. Mechanism Design


II. Auction Theory.


III. Bilateral Trading.


IV. Implementation Theory.


VI. Games with Communication.


VII. Mechanism Design, Information Aggregation, and Information Acquisition


**VIII. Bayesian and Social Learning**


**References**


