Economics 200c, Core Microeconomics III Spring 2013 Syllabus

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Course description

This is the third and last part of the graduate microeconomics core sequence. The second half of 200B already offered an introduction to noncooperative game theory with complete information; we will build on that knowledge by discussing games with incomplete information, basic signaling and screening models, mechanism design, and social choice.

This note describes a portion of Nageeb's class; I will say more in class. Joel will give you a note that describes his half of the class.

Logistics

- Me: Nageeb Ali, Econ 214, Email: nageeb+200@gmail.com
 Office Hours: Go to http://nageeb.youcanbook.me and enter password martingale to see my schedule and sign up for a slot.
- TA: Erik Lillethun, Email: elilleth@gmail.com. Office hours: Monday 2pm-4pm, Location: ECON 112.
- Required textbook: *Microeconomic Theory*, Mas-Colell, Whinston & Green. I will not distribute notes, and will build on a combination of MWG and Navin's notes.
- Lectures: MWF 8:00am–9:50am, Economics 300 [See Schedule]

Prerequisities

If you are not a Ph.D. student in Economics, please consult with Joel or me.

Assignments

- Additionally, you will be asked to solve questions in class, and I will evaluate your performance in doing this.
- I will have a midterm exam scheduled on April 26 during the class. This will count for most of your grade in my half of the course.

Schedule

The course will meet intensively for the first three weeks, we will have a midterm in week 4, and in week 5, I will review the midterm and your performance.

- 4/3, 4/5: Static Bayesian Games: Definitions and examples.
- 4/8, 4/10: Dynamic Bayesian Games: Definition of WPBE, PBE, and sequential equilibrium. Solving examples of extensive-form games with incomplete information. Discussion of the intuitive criterion.
- 4/15, 4/17, 4/19: Adverse Selection, Signaling, Screening: Formulation and Analysis.
- 4/26: MIDTERM EXAM
- 4/29: Discussion of Midterm

Here are the dates for Sobel's half: 5/1, 5/3, 5/6, 5/8, 5/10, 5/15, 5/17, 5/20, 5/22, 5/27, and exam during week of 6/3.

Joel Sobel Spring 2013

Economics 200C-Part 2: Games and Information

Description: Econ 200C is the final course in the micro core. I will teach the second half of the class. Nageeb Ali is teaching the first half of the class. My portion of the class will cover competitive screening, principal-agent models, and mechanism design.

Objectives: Core classes have three different goals. First, some students hope to pass the micro qual and get on with their lives. I want to identify the tools and concepts you must master to pass the qualifying exam. Second, the class introduces ideas that a well educated economist should know, both to show that one is an educated economist and to be able to use microeconomics in applications. I want you to be able to convince a professional microeconomist that you are well educated and permit you to use tools and ideas from microeconomics if relevant to your own research. Third, I want to stimulate (or at least not deaden) the enthusiasm of the small subset of students who might do research in microeconomic theory.

Organization: The class meets on from 8:00-10:50 on the following days: May 1 (Wednesday), May 3 (Friday), May 6 (Monday), May 8 (Wednesday), May 10 (Friday), May 15 (Wednesday), May 17 (Friday), May 20 (Monday), May 22 (Wednesday), May 24 (Friday).¹ In addition, there will be a final exam. We will decide on the date of the examination in the first week of class.

This quarter I will organize the class around problem solving. This is an experiment. The reason for the experiment is that I have been disappointed with my ability to convey information in a traditional lecture setting. I will try to structure each class around problems. Sometimes I will distribute or point you towards the questions in advance. Sometimes I will introduce for the first time in the classroom. I will expect students to participate actively in solving these problems (either by leading the discussion or by volunteering or by responding to direct questions from me).

In addition, a designated group of students will be "scribes." Scribes must compile notes for a class session. These notes must be turned in within one week of the class (preferably in the form of a LATEX file). The TA and I will edit the notes and distribute them to the rest of the class.

Objectives (again): I hope that the class will:

- 1. Identify the basic results;
- 2. Demonstrate how the results are useful;
- 3. Give basic descriptions and intuition for the basic results;
- 4. Show you were to find more complete expositions of these results;
- 5. Give you practice solving problem and thinking about how to solve problems;
- 6. Give you practice writing down solutions and related formal material.

¹Originally, I announced a class session on May 27 and not May 24, but May 27 is Memorial Day.

The first four items are passive in the sense that ordinarily I attempt to communicate them by lecturing to a class that (ideally) absorbs what I say. I have concentrated class time on these things in the past. The last two items are active. I plan to concentrate on the last two items this term, which means that you will have a greater responsibility than usual to do the first four things.

Requirements and Grading: I will base your grade for my half of the class on an examination (35%), participation, and your work as scribes (15% for the last two categories). The exam will cover only material from the last half of 200C. The final grade for the class will be a simple average of the grades for the two parts.

Office Hours: I encourage you to talk to me about course material. I propose to have office hours immediately after class. (I may need to modify these times.) Other times are possible with advanced warning. My office is 311 Econ. My email address is jsobel@ucsd.edu. Erik Lillethun continues as the TA for the class. His office is 112 Econ. His email address is elilleth@ucsd.edu.

References: Mas-Colell, Whinston, and Green's *Microeconomic Theory* is the main text for the class. You need not consult any other text to prepare for the qualifying exam but I will cover some topics that go beyond the basic texts. David Miller created a nice set of lecture notes for his version of the class last year. I will make these notes available. If you are enthusiastic about the material, come to me and I'll supply further readings.

How to Study: I recommend that you read the textbook coverage prior to the lecture and, when available, try to work on problems. Doing so gives you a context in which to place the lecture material, it may generate questions to ask, and it should give you the foundation to participate in problem solving as required.

After each class, you should take the time to extract a lesson from the problems presented in class and read the text to better understand general features. You should attempt to pose and solve problems similar to the ones discussed in class.

Try to pose and solve as many questions as you can.

Tentative List of Topics: Here is a tentative list of topics for the course. (If you are eager enough to follow Fudenberg and Tirole's book, then you should be able to identify the appropriate parts of the text.) Allow approximately two class meetings per topic. (I can count. Four topics times two classes per topic plus one date for an exam leaves one class period. Don't worry, there will be something to talk about.)

Date	Topic	MWG	Problems
May 1	Competitive Screening	460-467	13.D.1-3
May 3	Agency	477-488	14.B.1, 3, 4, 5
May 6, 8	Monopoly Screening	488-500	14.C, 2, 3, 5, 6, 7, 8
May 10	Mechanism Design: Introduction	857-869	23.B1-4
May 15	Implementation	869-897	23.C2-5, 10, 11
May 17	Continued		23.D.1-6
May 20	Further Applications	897-910	23.E.1, 6, 7
May 22	Arrow's Impossibility Theorem	789-806	21.B.1-2; 21.C.2-3; 21.D.1-3, 6
May 24	Cooperative Bargaining	817-849	22.E.1-4