Advanced Economic Theory
Econ 201, Spring 2006

Course Website: http://webct.ucsd.edu

Instructors:

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While we do not post official office hours, we are keen to chat with you about research (or anything else); feel free to make an appointment with either of us by email at any time.

Description: Econ 201 is an advanced topics course in Microeconomics, whose goal is to help you in making a smooth transition from coursework to research. The course content varies per the instructors' interests. This year, it consists of studying three areas of game theory and its applications: repeated games, mechanism design and information aggregation through social learning and voting.

In the first quarter of this course, we will study some of the seminal and cutting edge results in the theory of repeated games, especially those games with information and monitoring problems. The dynamic programming approach, introduced by Abreu, Pearce, and Stacchetti (1986, 1990) revolutionized this field 15 years ago, but current research is forging ahead to address ever more interesting and general questions. We'll pay special attention to games with private monitoring, in which equilibria in private strategies can perform better than perfect public equilibria. We'll also consider games of reputation, in which one player may or may not be committed to a particular action, and, if not so committed, may pretend to be committed to develop a reputation for commitment.

In the second quarter of the course, we will consider recent results in mechanism design, in which a mechanism designer seeks to implement a social choice rule that takes into account the private information held by a number of agents. The mechanism must account for the agents' incentives to reveal their information truthfully, and in many settings must also account for the agents' incentives to participate in the mechanism. These results address issues such as the existence of efficient mechanisms, the ability of the mechanism designer to extract surplus from the mechanism's participants, and the robustness of mechanisms to higher order beliefs. We will also look at some practical considerations for the special case of auctions.

The third and fourth quarters of the course will focus on information aggregation through social learning and voting. The general question of interest is whether dispersed information in a population gets aggregated efficiently under particular kinds of decision-making structures. In social learning, the decision-making is sequential, with prior agents' actions being observed by later agents. We will see how and when this can (and cannot) rationally lead to herd behavior and information cascades. We will then consider various extensions to the basic theory in this area, including endogenous timing of decisions and some questions about optimal pricing when

commodities can feature social learning on the part of consumers. Voting is widely-used method for aggregating information: we will study how well this works when voters are strategic agents. The impact of deliberation prior to voting will be analyzed. Time permitting, we will conclude by looking at sequential voting, which lies at the intersection of the two information aggregation themes of this course.

Logistics: Weekly meetings are scheduled for Friday, 9:00–11:50am in Economics 300.

Pre-requisites: You should have taken the first year Ph.D. sequence in the Economics department, or have received explicit consent from one of the instructors.

Assignments: In keeping with our objective to prepare you for research, you will have two assignments. First, you have to make an in-class presentation on a paper of your choice; second, you have to write a research paper/proposal on a topic of your choice.

Class presentations. For organizational purposes, you have to submit a list of at least two papers you would like to present: one on repeated games, and one on information aggregation. We recommend you pick one of the papers indicated with a '[P]' in the reading list; but you could suggest a different paper, so long as you check with us in advance. We will then aggregate everyone's preferences and let you know which paper you will present. (Rest assured, within the set of allocations that respect equal number of presentations across the two halves of the quarter, our social choice function will satisfy the Pareto principle.) You should plan on presenting for approximately 40 minutes, followed by a 10 minute discussion.

Research paper/proposal. You are required to write a paper on a topic in Microeconomic theory, broadly defined. It doesn't have to be on a topic we cover in class. Sometime before the end of the Spring quarter, you have to meet with one of us to discuss your topic. The final paper is due on the first day of Fall quarter, September 19. In terms of content, we expect a critical analysis of a body of literature and concrete directions for immediate future research. The hope is that you will have turned some of this "future research" into "current research" when you turn in your paper at the end of the summer.

Grading. Your grade for the course will be a weighted average of your presentation (35%) and your paper (65%). Please note that your transcript will show a blank grade for this course until the Fall quarter, after your paper is turned in.

Satisfactory/Unsatisfactory grading. The minimum standard for a satisfactory grade is the same as the minimum standard for a B-minus grade. Necessary (but not sufficient) conditions to obtain a B-minus grade are to complete the course assignments and attend most of the lectures.

Required Materials: There are no required textbooks for the course. All papers are available through the course website.

Reading List: Papers marked with a '[*]' are required reading and will form the basis for our lectures. Everything else is optional; keep in mind that papers marked with a '[P]' are suggested for your class presentation.