

University of California, Berkeley
Department of Economics

Econ 201B (Second Half)
Economic Theory
Spring 2009

Instructors

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Jian Li

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Wednesday 2:00-3:00 608-3 Evans

Course Material

Part 2 of the course will focus on General Equilibrium Theory. The main text is Andreu Mas-Colell, Michael Whinston, and Jerry Green, *Microeconomic Theory*, Oxford University Press, 1995. You will find Angel de la Fuente, *Mathematical Methods and Models for Economists* very helpful for some of the economics of the course, and all of the mathematics that underlies the economics of the course. You may also wish to look at Hal Varian, *Microeconomic Analysis* (Third Edition), Norton. Lecture notes will be posted on the web prior to the lectures; it is suggested that you print these out and use the margins to take notes in class; revisions may be posted after the class. **Course materials will be posted at:**

<http://emlab.berkeley.edu/users/anderson/Econ201B/201Bindex.html>.

Course Requirements

Lectures: Tuesday Thursday 3:30-5:00, 150 GSPP

Sections: Monday 8:00-10:00, 75 Evans
Friday 12:00-2:00, 2 Evans

Lectures for Part 2 will run from Tuesday March 17 through Tuesday May 12 inclusive. In addition to the two regular class meetings there will be tutorial sections run by Jian Li and Oleksiy Shvets. These sessions will review the lectures, introduce additional material, and discuss the weekly problem sets. All students should attend one of the weekly sections, and will be responsible for the material discussed at these sections. **Note that there will be sections on Friday March 13 and Monday March 16; these will provide a quick review of material covered in Econ 204 and the first half of Econ 201A that are particularly relevant to the second half of Econ 201B.**

Each week a problem set will be handed out in the Thursday lecture which will be due in the Thursday lecture the following week. There will be a total of seven problem sets. Students are urged to work in groups to complete the problem sets. However, each student must individually write up his or her own solution. Because of the size of the class and the burden of grading the problems sets, we will not accept late problem sets; there will be no exceptions to this rule. Your problem set grade will be based on the five highest grades of the problem sets you hand in; this will allow you to miss two problems set with no penalty.

The final numerical grade for 201B will be a simple average of your numerical grades on Parts 1 and 2. Grades for Part 2 will be based on the weekly problem sets (20%) and the Final Exam (80%). **The final exam will be held from 12:30 p.m. to 3:30 p.m. on Thursday May 21, location TBA;** it will cover the material of the second half of the course.

Course Outline

In the following list of topics, MWG refers to Mas-Colell, Whinston and Green, and F to de la Fuente:

- 1 Tuesday March 17**
 - a. Introduction
 - b. Edgeworth Box economy MWG 15.B
 - c. Pareto Optimality MWG 10.B, 15.B
- 2 Thursday March 19**
 - a. Two graphical “proofs” of existence of Walrasian equilibrium in Edgeworth Box MWG 15.B and lecture notes

Tuesday March 24 and Thursday March 28: Spring Break—No Classes
- 3 Tuesday March 31**
 - a. First Welfare Theorem in Edgeworth Box MWG 16.C
 - b. Second Welfare Theorem and “proof” in Edgeworth Box MWG 16.D
- 4 Thursday April 2**
 - a. Production in Robinson Crusoe economy MWG 15.C
 - b. Arrow-Debreu model MWG 16.B
- 5 Tuesday April 7**
 - a. First Welfare Theorem MWG 16.C; F 8.3
 - b. Minkowski’s Theorem (Separating Hyperplane Theorem) MSG M.G; F 6.1
 - c. Second Welfare Theorem MWG 16.D.1; F 8.3
- 6 Thursday April 9**
 - a. Second Welfare Theorem (continued) MWG 16.D.1; F 8.3
 - b. Nonconvex Preferences and the Second Welfare Theorem Handout
- 7 Tuesday April 14**
 - a. Brouwer’s Fixed Point Theorem MWG M.I; F 5.3
 - b. Sketch of idea of Scarf Algorithm; Lecture Notes
 - c. Kakutani’s Fixed Point Theorem MWG M.I; F 5.3
 - d. Debreu-Gale-Kuhn-Nikaido Lemma MWG 17.C; F 8.3
- 8 Thursday April 16**
 - a. Debreu-Gale-Kuhn-Nikaido Lemma (continued) MWG 17.C; F 8.3
 - b. Existence of Walrasian Equilibrium (exchange case) MWG 17.C; F 8.3

- 9 Tuesday April 21**
- a. Existence of Walrasian Equilibrium (exchange case) (continued) MWG 17.C; F 8.3
 - b. Generic Methods MWG 17.D; F 5.2
- 10 Thursday April 23**
- a. Regular Economies MWG 17.D
 - b. Index Theorem MWG 17.D; F 5.2
- 11 Tuesday April 28**
- a. Transversality Theorem MWG 17.D; F 5.2
 - b. Debreu's Theorem on Determinacy of Equilibrium MWG 17.D; F 5.2
 - c. Very brief treatment of MWG 17.E,F,H,
- 12 Thursday April 30**
- a. Hildenbrand-Grandmont-Quah approach to Uniqueness and Stability
 - b. Nonconvex preferences MWG 17.I and Handout
 - c. Shapley-Folkman Theorem Handout
 - d. Approximate Equilibrium with Nonconvex Preferences Handout
- 13 Tuesday May 5**
- a. Core MWG 18.B and Handout
- 14 Thursday May 7**
- a. Uncertainty and Incomplete Markets MWG 19.B-F
- 15 Tuesday May 12**
- a. Incomplete Markets (continued) MWG 19.B-F