

Professor John Nachbar
Fall 2007

Syllabus Econ 503 Part A

1 Introduction

The theme of this half of 503 is optimization. We will spend considerable time on competitive demand. I will touch on equilibrium briefly, but the main discussion of equilibrium will be in Part B of this course. In fact, equilibrium will be a major theme of every section of the core theory sequence, micro and macro, except this one. Also, everything in this course will be finite dimensional.

2 Requirements.

I will give roughly one homework assignment per week. Hand in homework either to the TA, Carmen Astorne-Figari, or to Jessica Cain in Eliot 205. I use homework to break ties. If I have two students with almost identical test averages, both close to a cutoff, but one has been diligent about homework and the other has not, then I will give the student with the better homework the higher grade. I will not give a grade of A or A+, regardless of test scores, to any student who has not been doing homework regularly. Some of the homework questions are intended to be instructional; you may find them challenging.

You are *encouraged* to work together. It is perfectly fine to get answers from somebody else, *provided* that you tried to do it yourself first. I *expect* those with more math training to help the other students.

Regardless of how you come by your answer, *you must write up the answer on your own*. I want to be able to give you feedback on proper writing style, so that you are prepared to write well for tests (not least of which is the prelim).

The midterm will be Saturday, October 27, 10-12. A room has not yet been assigned. The exam will be closed book, meaning that you may not consult the text, your notes, or any other material, nor may you communicate with each other while taking the tests. The test will be based primarily on homework and class notes (rather than on the text or supplemental reading).

I will not give an official grade lower than B-. But I will keep you informed as to your “real” (albeit unofficial) grade. The real grade will forecast your likely performance on the prelim. And the prelim committee takes real grades into consideration when deciding whether a student with borderline prelim grades should pass prelims. Thus, the real grade matters.

I will not offer a makeup midterm. Valid excuses for missing the midterm include a verified illness or special family circumstances (e.g. death of a member of the immediate family). To be excused from the midterm, you must give notification *before the exam begins* either to me or to a department secretary. If you are excused, your course grade will then depend on your homework grade and on your performance on the 503 final.

3 Outline

The primary text is Mas-Colell, Whinston, and Green (1995). My notes will be self-contained. Use the text as a reference and supplement, not as a substitute.

1. Preferences. MWG 1, 3.B-C.
 - (a) Choice.
 - (b) Preferences.
 - (c) Utility.
 - (d) Special examples: Cobb-Douglas, CES, homothetic, and quasilinear utility.
2. Competitive consumers. MWG 2, 3.D-J, 4.
 - (a) Utility maximization, Marshallian demand, indirect utility, expenditure, Hicksian demand, and the key equalities.
 - (b) Compensating and equivalent variation.
 - (c) The weak axiom and properties of individual demand.
 - (d) Aggregation.

Remark. There is a close but subtle relationship between the material in 2.F and the material in 3.G, and in particular between the matrices S and $D_p h$. I will be emphasizing the 3.G material and will make no direct reference to S or to propositions 2.F.2 or 2.F.3.
3. Production. MWG 5. My treatment will be very brief (Marcus will pick up on this material again in the second half).
4. Time and Uncertainty. MWG 6, 20.B. Again, my treatment will be brief.
5. Efficiency and Social Welfare. MWG 10.B, 16.F, 21, 22.A-D.
 - (a) Efficiency, competition, and social welfare maximization.
 - (b) The Arrow Impossibility Theorem.

4 Help.

There will be a question/answer session on Fridays 10-11 in Cupples I, 115. For this part of the course (at least), Carmen Astorne-Figari, our TA, will host the session.

My office hours will be Wednesdays from 2-3pm or by appointment. e-mail is the best way to reach me.

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Carmen Astorne-Figari's office hours will be Thursdays, 3-5pm, Eliot 210.

References

MAS-COLELL, A., M. WHINSTON, AND J. GREEN (1995): *Microeconomic Theory*. Oxford University Press, Oxford, UK.