Microeconomics 3, Spring 2003

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Wednesday 8–10 (all weeks) and Friday 10–12 (even weeks) in Bisp 214

Brief Course Description

This course is a natural continuation of our second year Micro course. We cover a mathematically precise version of general equilibrium theory, with an arbitrary number of goods, consumers and firms. Our stringent approach clarifies the extent to which Varian's stated results are general. The approach offers a guide towards the assessment of intuitive reasonings in Economics.

We first take a closer look at the consumers' problems — among the new things we get a result on the existence of the utility function and an analysis of aggregate demand. Next, we give a brief treatment of the firms, including an analysis of aggregate supply.

The ill behavior of aggregate demand motivates the use of large computer models to analyze economic equilibrium. Three guest lectures by Knud Jørgen Munk introduce this.

Finally we reach the canonical model of generel equilibrium, with elaborate proofs of the two welfare theorems and of the existence of a Walrasian equilibrium. We also study the uniqueness and stability of the Walrasian equilibrium.

This course assumes familiarity with intermediate microeconomics, e.g. from a course based on Hal Varian's *Intermediate Microeconomics: A Modern Approach,* Harvester Wheatsheaf. We make use of basic mathematical skills, as contained in a typical course on Mathematics for Economists, but our textbook contains a useful mathematical appendix.

The textbook is *Microeconomic Theory* by Andreu Mas-Colell, Michael Whinston and Jerry Green, Oxford University Press 1995. We cover the chapters 1-5 and 16-17. In addition, some notes on Computable General Equilibrium by Knud Jørgen Munk — these will become available as we need them.

Organizational Details

For the exercises, you can choose either the class on Tuesdays 15-17 or the class on Thursdays 8-10. They both take place in Bisp 213. The classes are taught by Rasmus Westerlin Nielsen. Some time is spent on the mathematics background from the textbook's appendix, but the classes mainly focus on helping you to solve the weekly problem set. You are expected to prepare in advance, by giving your best try at the problems. Such an active usage of the exercises will help you to master all of the course material. If you are only a passive listener at the exercise classes, you will not really develop your skills. I strongly recommend you to form groups of 2-4 members, to collaborate on the problem solving.

The course ends with a final exam on June 20. This is a four hour closed-book written exam. One half of the exam tests your understanding of the textbook through asking you

to reproduce proofs from the book, or create new simple proofs. The other half tests your ability to apply the material to solve given problems.

I am at the Institute of Economics, Studiestræde 6, peter.sorensen@econ.ku.dk, ph. 35323056. The course homepage is www.econ.ku.dk/sorensen/Mikro/mikro.htm. All but three lectures are given by me. My wife is expecting a baby in early April, but the guest lectures by Knud Jørgen Munk reduce the risk of any cancellations. Nevertheless, you may wish to join a mailing list which will be used to announce any cancellations of lectures. To do this, send me an email, and indicate that you wish to join the mailing list.

Lecture Plan

The following is a preliminary plan, which may be subject to changes. Note that the lecture on Wednesday April 9 is cancelled. Early in the course we will determine a date for a replacement lecture near May 16. Once this replacement has been decided, the course will finish on May 28, not May 30.

5/2	Ch. 2.A–E	Introduction. Demand
7/2	Ch. 1.C,D and 2.F	Weak Axiom
12/2	Ch. 2.F and 3.A–C	Slutsky Matrix. Utility Function
19/2	Ch. 3.B and 3.D	Utility Maximization
21/2	Ch. 3.E	Expenditure Minimization
26/3	Ch. 3.F–G	Duality
5/3	Ch. 3.H–J	Consumer's Surplus. Integrability
7/3	Ch. 4.A–B	Aggregate Demand
12/3	Ch. 4.C–D	Aggregate Demand
19/3	Ch. 5.A–D and 5.G	Production, Profits and Costs
21/3	Ch. 5.E–F	Supply
26/3	Notes	Computable General Equilibrium
2/4	Notes	Computable General Equilibrium
4/4	Notes	Computable General Equilibrium
9,16,18/4	*Cancelled and Easter*	
23/4	Ch. 16.A–C	First Welfare Theorem
30/4	Ch. 16.D	Second Welfare Theorem
2/5	Ch. 16.E–F	Optimality and Welfare
7/5	Ch. 17.A–C	Equilibrium in an Exchange Economy
14/5	Ch. 17.C	Existence of Walrasian Equilibrium
16/5	*All Saints (Store Bededag)*	
21/5	Ch. 17.D	Local Uniqueness of Equilibrium
28/5	Ch. 17.F	Global uniqueness
30/5	Ch. 17.G,H	Comparative Statics Tâtonnement.
20/6	*Exam*	