

Patrick Bayer
Office: 222 Social Sciences Building
patrick.bayer@duke.edu
Office Hours: Friday 10:00am-12:00pm

Fall 2006
Economics 301 – Module 1

Course Syllabus

This syllabus covers the first half of the first semester of the PhD Microeconomics sequence for the Department of Economics. It covers basic neoclassical principles of consumer and producer theory under certainty and uncertainty – working up to developing the important insights contained in the fundamental welfare theorems of economics that will be covered later in the course. An understanding of what underlies these welfare theorems then forms the basis of much of what we do as economists. It tells us the conditions under which markets are efficient. When these conditions are satisfied, there is no efficiency role for non-market institutions, leaving only distributional reasons for the existence of such institutions. When these conditions are not satisfied, however, efficiency roles emerge for non-market institutions. Such institutions may be voluntary “civil society” institutions or government policies, with the former facing the free rider problem and the latter facing political aggregation problems.

We will start with topics that will look familiar to those with an undergraduate economics background, but we will quickly build intuitions into formal models. Our focus throughout will be to help students transition from a standard undergraduate understanding of microeconomics to an intuitive understanding of the underlying tools and then to a formalization of those tools using calculus and (sometimes) linear algebra techniques. Our aim is to translate economic intuitions into model building skills and to facilitate an easy transitioning between the two. At the end of the course, we hope that students will be able to translate basic economic problems into economic models that they can solve formally and then interpret intuitively. Throughout the course we will use mathematics but keep in mind that math is not an end in itself – merely one tool that can help shed light on the world around us.

Textbooks and Readings

The principle text for the course is *Microeconomic Theory* by Mas-Colell, Winston and Green. We will also make available chapters from a textbook (tentatively titled *Microeconomics*) that Thomas Nechyba (our department chair) is currently writing. The Nechyba text is an intermediate to advanced undergraduate text that covers many of the topics we will discuss. Each chapter is split into two parts, with part A covering the material in an intuitive/graphical way and part B adding the underlying mathematics without the use of linear algebra. This text should be immediately accessible to everyone in the class and should prepare you well for lectures. The Mas-Colell et. al. text, on the other hand, is written at a very advanced level that is often not easily accessible for beginning graduate students prior to lectures. Our goal is to build from the level of the Nechyba text to the level of the Mas-Colell et. al. text through lectures and problem sets. We will focus heavily on the intuitive link between math and economics which can best be established through an initial review of the chapters in the Nechyba text, followed by lecture and the readings of Mas Colell et. al., and working through problem sets.

Grades

During the first half of the semester, we will have one midterm (October 4, in class). A final exam will be given following the second half of the semester. Your total score for the course will be determined 35% by your midterm and 65% by the final exam unless you do better on the final exam than you do on the midterm, in which case it will be determined 100% by your final exam. In addition, if your homework performance is satisfactory, your grade will be elevated by one level - for example, if you would have a B in the absence of homeworks, satisfactory homework performance will elevate your grade to a B+.

Course Outline:

	Nechyba	Mas-Colell, et. al.
Aug. 28: Choice Sets	2, 3	2.A-D
Aug. 30: Preferences	4, 5	1.A-B, 3.A-C
Sept. 4: Utility Maximization	6	3.D
Sept. 6: Income/Wealth and Substitution Effects	7, 8	
Sept. 11: Demand	9	
Sept. 13: Duality	10	3.E-H
Sept. 18: Consumer Surplus	10 (cont.)	3.I
Sept. 20: Revealed Preference		1.C-D, 2.F, 3.J
Sept. 25: Single Input Production and Supply	11	5.A-B
Sept. 27: Duality in (Multi-Input) Production	12	5.C-D
Oct. 2: Aggregation and the Quasilinear Economy	15	4.A-B, 5.F, 10.D-G
Oct. 4: MIDTERM EXAM		
Oct. 9: FALL BREAK		
Oct. 11: Risk and Uncertainty	17	6.A-F