E100 Principles of Microeconomics

Aims and Objectives

This course will cover the standard economic models of individual decision-making with and without uncertainty, models of consumer behaviour and producer behaviour under perfect competition and the Arrow-Debreu general equilibrium model.

The course will build the foundations for, and then culminate in, a theory of markets and Adam Smith’s “invisible hand.” We start with people’s underlying preferences and see how when these preferences can be represented in a more tractable form by utility functions. Historically, two major questions motivated this exercise. First, utilitarian philosophers were trying to formulate a theory of social choice and government decision making, while economists were trying to better understand the insights of Adam Smith by formalizing a theory of markets.

Utilizing this theory of choice under certainty we will see how consumption decisions translate into demand and extend the theory to choice under uncertainty. With these results in hand, we move onto general equilibrium and how markets can simultaneously clear. This leads us to the welfare theorems, linking efficient outcomes to markets, and results on the existence of a competitive (Walrasian) equilibrium. The final part of the course critically analyzes the assumptions underlying the welfare theorems, paying particular attention to the problems that arise when there is asymmetric information such that different actors in the economy know different things when interacting with each other.

Prerequisites

The class will be relatively introductory and non-technical. For example, we will state results formally but stop short of formally proving them, instead giving intuition or sketches of more formal arguments. A basic knowledge of economics and basic level of mathematical sophistication, particularly with respect to optimization, will be assumed. Students should be somewhat familiar with multivariable calculus, basic linear algebra and probability theory. For those students with a weak mathematical background is weak, some reading and practice doing problems ahead of the course is advised. A good place to start is the mathematical appendix in Mas-Colell, Whinston, Green. Similarly, if you’ve not taken much economics before or want to brush up, you may want to look at an undergraduate microeconomics text. Among the good options are books by Nicholson, and by Pindyck and Rubinfeld.

Assessment

There will be a mid-term exam in January and a final exam in May
Reading
A booklet will be provided that closely follows and supplements the slides from lectures. This is the primary reading for the course. There are also two excellent and well-known microeconomics textbooks:
The two books have different styles: MWG has the broadest coverage and is fairly concise; Kreps is more chatty.
Additional readings, pertinent to particular topics, will be provided in lectures.

Tentative Course Plan
1. Choice Theory: Preferences, Choice and Utility
   Reading: Choice Theory Notes, MWG Ch. 1, Kreps Ch. 2.1.

2. Choice under Uncertainty
   Reading: Choice under Uncertainty Notes; MWG Ch. 6, Kreps Ch. 3

3. General Equilibrium
   Reading: General Equilibrium Notes; MWG Ch. 15-17, Kreps Ch. 6.