

Princeton University – Department of Economics
ECO 300 – Microeconomic Theory
Fall Term 2005

SCHEDULES AND COURSE OUTLINE

Time and Place

Lectures: Tuesdays and Thursdays 11.00-12.20, Green Hall, Room 0S6
Precepts: Wednesdays 10.00-10.50, 11.00-11.50 in Fisher Hall, Room B-03
 Wednesdays 2.30-3.20, 3.30-4.20 in Fisher Hall B-01
Problem set study hall: Wednesdays 7.30-9.00 of PS-due weeks, Fisher Hall, Room B-03

People

Professor: Avinash Dixit
Office location: Fisher Hall Room 212
Office hours: Tuesdays 1.00-3.00, Wednesdays 2.00-4.00
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Preceptor: Martin Schonger
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To communicate with us, please use e-mail, not phone or voice-mail.

Course Description

This course builds on your knowledge of microeconomics from ECO 100. The general themes are again (1) choice behavior of individual consumers and firms, (2) equilibrium of the interaction of these choices in markets or similar institutions, and (3) the role of government policy in improving economic outcomes. In each case, we take the analysis to a greater depth than did ECO 100. We also develop some new concepts and techniques, especially for studying behavior under uncertainty, and strategic interactions (game theory). The theory of each topic is accompanied by evidence, illustrations, and applications. The aim is to get you ready to read the simpler professional literature intelligently in preparation for your junior independent work and senior thesis.

(This course is a less-math version of intermediate microeconomics. If you know multivariable calculus and linear algebra to the level of MAT 200 or better, and especially if you want to do the finance certificate, you should take ECO 310.)

Textbook

Robert S. Pindyck and Daniel L. Rubinfeld, *Microeconomics*, sixth edition, 2004.

Prerequisites

You must have taken ECO 100 for credit and passed (received a C- or better, or P if P/D/F). Alternatively, you must have placed out of ECO 100 by receiving a grade of 5 on AP Microeconomics or an equivalent international qualification (grade 7 on IB Higher Level Economics or grade A on British A-levels.)

You must also have taken MAT 103 for credit and passed, or placed out of it. We will not use heavy mathematical machinery, but we will use mathematical notation and some simple calculus. This is the less-math version of intermediate micro, but there is no such thing as a no-math version of economics these days; sorry.

These prerequisites are enforced without exception. The Announcement and Course Offerings list ECO 101 (macro) as a prerequisite, and most of you will have done it, but in special circumstances I may agree to waive it.

Bottom-line issues

Please read carefully the separate handout of instructions for problem sets and exams.

Problem Sets

There will be eight problem sets. Each will be posted on the course web site about a week ahead of its due date. Each will be due on a Thursday by 12.30 p.m. We will not accept late problem sets for any reason. However, only the best six will count toward the grade, so you can miss two without cost. The due dates are:

No. 1 – Sep. 29. No. 2 – Oct. 6. No. 3 – Oct. 13. No. 4 – Oct. 20.
No. 5 – Nov. 17. No. 6 – Dec. 1. No. 7 – Dec. 8. No. 8 – Dec. 15.

Exams

There will be an 80-minute midterm exam in class on Thursday October 27, and a scheduled 3-hour final exam during the exam period in January. Exams must have priority over other activities including especially travel home or to exotic locations.

Grading

The problem sets will count for 30% of the course grade. The exam weights will be individualized: either (20% midterm, 50% final) or (30% midterm, 40% final), whichever gives you the higher score. The top 30% or slightly fewer in the aggregate ranking will get grades in the As, and approximately the next 50% will get grades in the Bs. These are not absolutely rigid limits, but expectations based on much experience.

Course outline

I will follow the order of topics in Pindyck-Rubinfeld, but will generally develop the theory and applications somewhat differently. Xerox copies of the class presentations will be available at the lectures, and PDF files will be posted on the course web site later in the day. Some of the more technical details will be developed in precepts, where individual questions can better be addressed. The precept topics will be announced a few days ahead. You should try to do some advance reading from the book both for the lectures and for the precepts.

More generally, you should regard the textbook, the lectures, and the precepts as being mutually complementary, not substitutes. Roughly speaking, the division of labor between these activities is as follows: The simplest material, e.g. descriptions, cases and applications, and some simple analytics, will be left for you to read from the textbook. I will cover the basic analysis in the lectures. More technical and special topics, and some applications, where discussion and clarification of individual questions is more important, will be covered in the precepts.

The dates given below for coverage of the individual topics are approximate and subject to revision. But the order will mostly stay as stated below. The list is basically intended to help you plan your advance reading.

1. Overview of microeconomics (September 15 and 20)

- a. Main themes – scarcity, choice, tradeoffs, opportunity costs, equilibrium, efficiency
- b. Supply and demand curves, their elasticities, shift variables
- c. Mathematics of constrained maximization and its economic interpretation

Pindyck-Rubinfeld, Chapters 1, 2
Additional handout 1

2. Consumer behavior

- a. Ingredients – preferences and budget constraints (September 22)
- b. Utility maximization and individual demand functions (September 27)
- c. Market demand functions, empirical estimation (September 29)
- d. Applying the theory – consumer surplus and dead-weight loss (October 4)
- e. Applying the theory – cost-of-living indexes, effects of taxes (October 6)
- f. Choice under uncertainty – basic theory (October 11)
- g. Choice under uncertainty – testing and applying the theory (October 13)

Pindyck-Rubinfeld, Chapters 3-5 including the appendix to Chapter 4

3. Production, costs and supply

- a. Production functions – returns to scale (October 18)
- b. Cost functions – input demands and substitution (October 20)
- c. Cost functions – long and short run cost curves and supply curves (November 8)

Pindyck-Rubinfeld, Chapters 6-8 including appendix to Chapter 7

4. Markets: characterizing and evaluating equilibria

- a. Perfect competition – efficiency, dead-weight losses of distortions (November 10)
- b. Monopoly and price discrimination (November 15)
- c. Oligopoly and game theory (November 17, 22)
- d. Applications – labor and capital markets (November 11)
- e. General equilibrium of multiple markets; economic efficiency (November 29)
- f. Other institutions of transactions – auctions, implicit contracts (December 1)

Pindyck-Rubinfeld, Chapters 9-16
Additional handout 2

5. Asymmetric information

- a. Adverse selection, insurance, signaling, screening (December 6)
- b. Moral hazard, incentives and organization within firms (December 8)

Pindyck-Rubinfeld, Chapter 17

6. Externalities and public goods

- a. Spillovers and market failures, governmental and market solutions (December 13)
- b. Collective action problems and their solutions (December 15)

Pindyck-Rubinfeld, Chapter 18