



DIVISION OF ECONOMIC AND FINANCIAL STUDIES

DEPARTMENT OF ECONOMICS

**ECON200 MICROECONOMIC ANALYSIS
UNIT OUTLINE
2004**

**Michael Olive
Lecturer in charge**

ECON200 MICROECONOMIC ANALYSIS

1. AIMS AND STRUCTURE OF THE COURSE

The course ECON200 Microeconomic Analysis is an intermediate-level course in theoretical and applied microeconomics. It builds on the foundations laid in the 100-level economics courses, and may in turn be seen as providing the insights and tools necessary for the study of more specialised or more applied areas in economics, accounting, finance and marketing at 200- and 300-level. The course places strong emphasis on developing analytical and theoretical skills as a means of encouraging rigorous and logical thinking about real-world economic questions.

The course develops a framework for microeconomic theory and analysis from the standpoint of the decision-making functions of individual and collective economic units (consumers, households, firms and society as a whole).

A summary of the course content is as follows:

1. Introduction (1 lecture)
2. Consumer theory (13 lectures)
3. Imperfect information (5 lectures)
4. Theory of the firm (1 lecture)
5. Production, costs and profit (6 lectures)
6. Perfect and imperfect competition (6 lectures)
7. Game theory and auctions (3 lectures)
8. General equilibrium and welfare economics (2 lectures)

A more detailed course outline is given below.

2. ENQUIRIES

Lecturer-in-charge

Michael Olive: C5C 383, ph. 9850 9948, email: molive@efs.mq.edu.au.

Lecturer

Glenn Jones: C5C 391, ph. 9850 8500, email: glenn.jones@mq.edu.au.

Tutor-in-charge

Edwin Frank: C5C 378, ph. 9850 7076, email: efrank@efs.mq.edu.au.

Michael Olive and Glenn Jones will present approximately half the lectures each.

All enquiries concerning the administration of the unit (including tutorial arrangements) should be addressed to Edwin Frank. Enquiries about course content should be directed in the first instance to your own tutor. Clarification of specific points in lectures should be directed to the appropriate lecturer. You will be notified of the consultation times for the lecturers and tutors. If you cannot contact your tutor or lecturer in person you should email them.

3. LECTURES

There are three hours of lectures each week at the following times and places:

Day Lectures

| | | |
|-----------|---------------|-----------|
| Tuesday | 11.00 | E7B Mason |
| Wednesday | 13.00 - 15.00 | X5BT1 |

Evening Lectures

| | | |
|-----------|---------------|-------|
| Tuesday | 18.00 - 20.00 | C5CT2 |
| Wednesday | 18.00 | C5CT2 |

Day and evening lectures are given in parallel, with a 10 minute break in the middle of the double lectures. Unless there are exceptional circumstances, students are asked to attend the lectures to which they have been allocated.

Please consult the Course Diary below for precise details of the currently scheduled lecture dates for the whole course. During the semester, staffing arrangements may require the cancellation of some lectures. Any changes will be announced as far as possible in advance.

4. TUTORIAL PROGRAMME

There are no tutorials during the first week of the semester. During the first week you should check tutorial lists in the locked notice cases outside the EFS Resource and Information Centre (ERIC) Level 2, Building C5C, to find the time and room of the tutorial group to which you have been allocated.

The tutorial to which you have been allocated is our most efficient method of contacting you if we need to. During the first two weeks of semester changes to your allocated tutorials must be processed through the online enrolment system. After the first two weeks changes must have a substantive reason and must be submitted in writing and approved by Edwin Franks. If unforeseen circumstances cause you to miss a tutorial you may attend another tutorial on a once-off basis without notification.

There are nine tutorials in total and, therefore, not held every week. Tutorial One is a mathematical review of basic algebra and calculus. The questions for the tutorials two to nine include discussion questions linked to particular articles and problems from Workouts in Intermediate Microeconomics (Bergstrom and Varian). Suggested review questions from Workouts in Intermediate Microeconomics (Bergstrom and Varian), Intermediate Microeconomics (Varian) and the Devlin and Gallini Study Guide are also provided. The details and requirements for tutorials are given in a separate ECON200 Tutorial Program document.

Students are encouraged to attend tutorials and complete the tutorial and review questions. An essay question relating to the discussion questions will be part of the final exam. Also, a roll will be kept and students that attend fewer than seven tutorials will not be eligible for a supplementary exam. Frequently, there is not enough time for tutors to address all of the tutorial questions. For this reason, answers to the set tutorial questions taken from Workouts

in Intermediate Microeconomics (Bergstrom and Varian) will be provided on the ECON200 website at the end of the week. Note that answers for the discussion questions and the review questions will **not** be provided.

5. ASSESSMENT

The components of assessment in this course are as follows:

| | % |
|-----------------------|-----|
| Mid-semester Test 1 | 20 |
| Mid-semester Test 2 | 20 |
| Exam: multiple choice | 20 |
| Exam: essays/problems | 40 |
| | |
| Total | 100 |

A further requirement is that **students must pass the final exam** in order to pass the course. The two **multiple choice mid-semester tests** will be taken in place of the regular Tuesday lectures on April 6 and May 25. The tests will be held in the 11.00 lecture for day students and in the 18.00 lecture for evening students (with a lecture to follow). The material covered in the two mid-semester tests will be

| | |
|--------|------------------|
| Test 1 | Lectures 1 - 14 |
| Test 2 | Lectures 15 - 26 |

Failure to attend a mid-semester test without the submission of a request for special consideration on the grounds of illness or unavoidable mishap together with supporting documentation will result in a **mark of zero for the missed test**. If you wish to advise of absence from mid-semester tests or tutorials you should fill out an **Advice of Absence Form**, available from the Student Centre, and submit it together, with appropriate supporting documentation, (including an **EFS Professional Authority Advice Form**) to the Student Centre. The value of your final exam will be increased on a pro rata basis if special consideration is granted for a mid-semester test. Note that a **Special Consideration Form** needs to be filled out if special consideration from the final exam is being requested.

6. COURSE DIARY 2004

| Week | Date | Lecture Number | | Tutorial |
|---------------------------|----------|----------------|-----------------|-------------------|
| | | Day | Evening | |
| 1 | March 2 | 1 | 1, 2 | |
| | March 3 | 2, 3 | 3 | |
| 2 | March 9 | 4 | 4, 5 | Tutorial 1 |
| | March 10 | 5, 6 | 6 | |
| 3 | March 16 | 7 | 7, 8 | Tutorial 2 |
| | March 17 | 8, 9 | 9 | |
| 4 | March 23 | 10 | 10, 11 | Tutorial 3 |
| | March 24 | 11, 12 | 12 | |
| 5 | March 30 | 13 | 13, 14 | Tutorial 4 |
| | March 31 | 14, 15 | 15 | |
| 6 | April 6 | TEST | TEST, 16 | |
| | April 7 | 16, 17 | 17 | |
| MID-SEMESTER BREAK | | | | |
| 7 | April 27 | 18 | 18, 19 | |
| | April 28 | 19, 20 | 20 | |
| 8 | May 4 | 21 | 21, 22 | Tutorial 5 |
| | May 5 | 22, 23 | 23 | |
| 9 | May 11 | 24 | 24, 25 | Tutorial 6 |
| | May 12 | 25, 26 | 26 | |
| 10 | May 18 | 27 | 27, 28 | Tutorial 7 |
| | May 19 | 28, 29 | 29 | |
| 11 | May 25 | TEST | TEST | |
| | May 26 | 30, 31 | 30, 31 | |
| 12 | June 1 | 32 | 32, 33 | Tutorial 8 |
| | June 2 | 33, 34 | 34 | |
| 13 | June 8 | 35 | 35, 36 | Tutorial 9 |
| | June 9 | 36, 37 | 37 | |

7. TEXT AND REFERENCE BOOKS

The set texts for the course are

Varian, H. R. (2003) *Intermediate Microeconomics: A Modern Approach*, (6th Ed), New York: Norton.

Bergstrom, T. C. and H. R. Varian (2003), *Workouts in Intermediate Microeconomics*, (6th Ed), New York: Norton.

Note: These texts will be wrapped together as a set.

Supplementary Study Guide

Devlin, R. A. and N. T. Gallini (2002), *Problem Solving in Microeconomics: A Study Guide for Microeconomics by Eaton, Eaton and Allen*, (5th Ed) New York: Prentice- Hall.

Supplementary General Texts

A good strategy when confronted by conceptually difficult material is to see how the same material is treated in other texts. The following is a list of supplementary textbooks.

Intermediate

Eaton, B.C., D.F. Eaton and D.W.Allen (2002) *Microeconomics*, (5th Ed) New York: Prentice- Hall.

Frank, R. H. (2000) *Microeconomics and Behaviour*, (4th Ed) Boston: McGraw Hill.

Katz, M.L. and H.S. Rosen (1994) *Microeconomics*, (2nd Ed) Boston: Irwin.

Mansfield, E. and G. Yohe (2004), *Microeconomics*, (11th Ed), New York: Norton.

Schotter, A. (2003) *Microeconomics: A Modern Approach*, (3rd Ed) New Jersey: Prentice Hall.

Advanced

Eatwell, J., Milgate, M. and Newman, P. (Eds) (1987) *The New Palgrave: A Dictionary of Economics*, London: Macmillan.

Gravelle, H. and R. Rees (1981) *Microeconomics*, London: Longman.

Hay, D. A. and D. K. Morris (1991), *Industrial Economics and Organisation: Theory and Evidence*, Oxford, Oxford University Press.

Varian, H.R. (1994) *Microeconomic Analysis*, (3rd Ed) New York: Norton.

Mathematical

Chiang, A. C. (1984) *Fundamental Methods of Mathematical Economics*, (3rd Ed), New York: McGraw-Hill.

Dowling, E. T (1992), *Introduction to Mathematical Economics*, (2nd Ed), New York: McGraw-Hill.

8. LECTURE OUTLINE AND READING GUIDE

Every effort will be made to keep to the following lecture-by-lecture outline. As far as possible, changes will be notified in advance. Day and evening lectures with the same number are identical. In looking for reference material in the Library, always check Special Reserve first. The reading guide is intended as a basic guide only and further references may be given as the course proceeds.

1. INTRODUCTION

Lecture 1

1.1 Introduction and methodology

- 1) What is microeconomics?
- 2) Role of economic theory
- 3) Basic elements
- 4) Rationality
- 5) Method of analysis

Varian, Ch 1

Frank, Ch1

Gravelle and Rees, Ch 1

2. CONSUMER THEORY

Lecture 2

2.1 The budget constraint

- 1) Consumption bundles
- 2) The budget constraint
- 3) The budget line
- 4) Irregular budget lines
- 5) Endowments and the budget line

Varian, Ch 2

Eaton, Eaton and Allen, Ch 2

Lecture 3

2.2 Consumer preferences

- 1) Preference ordering
- 2) Completeness
- 3) Transitivity
- 4) Non-satiation
- 5) Continuity
- 6) Strict convexity
- 7) MRS and DMRS

Varian, Ch 3

Lecture 4

2.3 Utility functions

- 1) Utility functions
- 2) Marginal utility and MRS
- 3) Ordinal utility
- 4) Monotonic transformations

Varian, Ch 4

Eaton, Eaton and Allen, Ch 2

Lecture 5

2.4 Consumer choice

- 1) Choice as Optimisation
- 2) Graphical analysis of utility maximisation and demand functions
- 3) Lagrange multiplier method
Cobb-Douglas utility function

Varian, Ch 5

Eaton, Eaton and Allen, Ch 3

Chiang pp 370 – 375

Lecture 6

2.5 Consumer demand

- 1) Demand curves and Engel curves
- 2) Substitutes, complements, Giffen goods
- 3) Normal goods, inferior goods
- 4) Substitutes and Complements

Varian, Ch 6

Eaton, Eaton and Allen, Ch 3

Lectures 7 and 8

2.6 Revealed preference

- 1) Revealed preference
- 2) Index numbers in quantity and price
Laspeyres
Paasche

Varian, Ch 7

Eaton, Eaton and Allen, Ch 4 pp 149-152

Lecture 9

2.7 Substitution

- 1) Slutsky equation
- 2) Income and substitution effects
- 3) Negative substitution effects
- 4) Compensated demand function

Varian, Ch 8

Eaton, Eaton and Allen, Ch 3 and 4
Frank Chapter 4

Lectures 10 and 11

2.8 Consumer Theory with Endowments: Labour Supply & Saving/Borrowing.

- 1) Budget constraint with endowments
Offer curves and demand curves
- 2) Labour supply
Time endowment
Full income
Leisure demand/labour supply
- 3) Inter-temporal consumption (Borrowing and lending)
Present and future value
Budget constraint
Choice and comparative statics

Varian, Ch 9 and 10
Eaton, Eaton and Allen, Ch 5

Lectures 12 and 13

2.9 Consumer Welfare Measurement

- 1) Equivalent and compensating variation
- 2) Consumer surplus
- 3) EV, CV, CS and the welfare effects of taxes

Varian, Ch 14
Eaton, Eaton and Allen, Ch4 pp 134-149
Gravelle and Rees, pp 103-110

Lecture 14

2.10 Market demand

- 1) Market demand functions
- 2) Elasticities
Own price, cross price and income elasticities
- 3) Comparative statics applications
Excise tax versus a lump sum tax
Rationing
Indexation
- 4) Properties of demand functions

Varian, Ch 15
Eaton, Eaton and Allen Ch 2

3. IMPERFECT INFORMATION

Lectures 15, 16, 17

3.1 Choice under Imperfect Information

- 1) Introduction
- 2) Budget set
 - Expected monetary value
 - Expected utility hypothesis
 - Prospects
- 3) Preferences
 - Continuity
 - von Neumann-Morgenstern expected utility function
 - Indifference curves
 - Risk averse / Risk neutral / Risk inclined
- 4) Choice
 - Gambling
 - Risk pooling
 - Insurance
 - Risk spreading
 - Diversification

Varian Ch 12

Eaton, Eaton and Allen, Ch 17

Lectures 18 and 19

3.2 Market Failure with Uncertainty

- 1) Asymmetric Information
- 2) Hidden characteristics
 - Adverse selection and "Lemons"
 - Signalling
 - Screening
- 3) Hidden actions
 - Moral hazard

Varian Ch 36

Eaton, Eaton and Allen, Ch 20

Frank, pp186 - 199

4. THEORY OF THE FIRM

Lecture 20

4.1 The Firm

- 1) Firm organisation
 - Single proprietorship
 - Partnership
 - Company
- 2) Traditional firm
 - Nature of the traditional firm
 - Critique

Varian, Ch 19 p333

Gravelle and Rees, Ch 6 and 13

Katz and Rosen, Ch7 pp 230-237

5. PRODUCTION, COSTS AND PROFIT

Lecture 21, 22

5.1 The Production Function

- 1) Inputs and outputs
- 2) Technology
 - Assumptions
 - Feasible set
- 3) Production functions
 - General form
 - Linear, Cobb-Douglas, CES, Leontief
- 4) Isoquants
 - Perfect complements
 - Perfect substitutes
 - Strictly convex
- 5) Marginal product and marginal rate of technical substitution
- 6) Elasticity of substitution and factor intensity
- 7) Returns to scale and homogeneous production functions
- 8) Technical progress
- 9) Long run versus short run
 - Fixed, quasi-fixed and variable factors
- 10) Product curves

Varian, Ch 18

Mansfield, Ch 6

Schotter, Ch5

Lecture 23

5.2 Profit Maximisation

- 1) Profit, revenue and cost
- 2) Accounting versus economic cost
 - Opportunity costs
 - Sunk costs
- 3) User cost of capital
- 4) Present value of future profits
- 5) Short-run profit maximisation for a price-taking firm
 - First-order equilibrium conditions
 - Iso-profit curves
 - Comparative statics
- 6) Long-run profit maximisation for a price-taking firm
- 7) The production and shut-down decisions
- 8) Factor demands

Varian, Ch 19
Katz and Rosen, Ch 7

Lecture 24, 25, 26

5.3 Cost Theory

- 1) Long-run cost constraint
Isocost lines
- 2) Solving the cost minimisation/output maximisation problem
Graphical analysis
First-order equilibrium conditions
Lagrangian multiplier method
- 3) Comparative statics
Changes in input prices
Output Expansion path
Inferior/normal inputs
Homothetic production functions
- 4) Derived factor demands
- 5) Cost function, average cost, marginal cost
Linear, Leontief and Cobb-Douglas production functions
Returns to scale, economies of scale and homothetic production functions
- 6) Long-run cost curves from neoclassical theory
- 7) Short-cost curves from neoclassical theory
- 8) Cost envelope
- 9) Empirical testing of cost and production theory

Varian, Ch 20, 21
Eaton, Eaton and Allen, Ch6 205-214, Ch7 pp246-254
Gravelle and Rees, Ch8 pp205-210, Ch 9 pp226-228

6. PERFECT AND IMPERFECT COMPETITION

Lectures 27 and 28

6.1 The Theory of Perfect Competition

- 1) Market Environment
Technological and market constraints
Equilibrium in the competitive market
- 1) Assumptions of perfect competition
- 2) Appropriate market structure
- 3) Short-run supply of the competitive firm
Supply decision
Shutdown condition
Inverse supply function
Profit versus producer surplus
- 4) Long-Run supply of the competitive firm
- 5) Short-run industry supply
- 6) Aggregate producer and consumer surplus
- 7) Long-run industry supply
Constant, increasing and decreasing cost industries
- 8) Firm and market adjustment for a shift in demand

- 9) Some comparative statics
The incidences of taxes and tariffs

Varian, Ch 22, 23

Katz and Rosen, Ch 11 pp344-359

Lectures 29 and 30

6.2 Monopoly and monopoly behaviour

- 1) Monopoly price and output
- 2) Inefficiency of monopoly
- 3) Sources of monopoly
 - Franchise
 - Patents
 - Resource supplies
 - Cartels and anti-competitive behaviour
 - Natural monopoly
- 4) Regulatory responses to monopoly
 - Taxes
 - Price ceiling
 - Average cost pricing
 - Rate of regulation
 - Anti-trust legislation
- 5) Price Discrimination
 - First, second and third degree price discrimination
- 6) Bundling
- 7) Two-part Tariff
- 8) Monopolistic Competition
 - Assumptions
 - Appropriate market structure
 - Short and long-run equilibrium
 - Location model

Varian, Ch 24 and 25

Eaton, Eaton and Allen, Ch 10

Katz and Rosen, Ch 14

Frank, Ch 13

Lectures 31 and 32

6.3 Oligopoly

- 1) Assumptions
- 2) Appropriate market structure
- 3) Non-collusive oligopoly
 - Stackelberg quantity-leadership model
 - Price leadership
 - Cournot model
 - Bertrand model
 - Conjectural variations and reaction functions
- 4) Collusive oligopoly
 - Cartels and punishment strategies

Varian, Ch 26
Katz and Rosen, Ch 15

7. GAME THEORY AND AUCTIONS

Lectures 33 and 34

7.1 Game Theory

- 1) Rules, payoffs and strategies
- 2) Normal form games
 - Dominant strategy
 - Nash equilibrium
 - Prisoner's dilemma
- 3) Repeat games
 - Enforcing a cartel
- 4) Extensive form games
 - Entry deterrence
 - Credible threat
 - Subgame perfect equilibria
- 5) Mixed strategies
- 6) Coordination
- 7) Competition
- 8) Coexistence
- 9) Commitment
- 10) Bargaining

Varian, Ch 28 and 29
Schotter, Ch 7

Lecture 35

7.1 Auctions

- 1) Auctions and competitive markets
- 2) Other auction institutions
 - Classifications
 - Bidding rules
 - Auction design
 - Revenue equivalence theorem
 - Problems with auctions

Varian, Ch 17
Schotter, Ch 13 pp502-518

8. GENERAL EQUILIBRIUM AND WELFARE ECONOMICS

Lectures 36 and 37

8.1 General equilibrium and welfare economics

- 1) A pure exchange economy
 - The Edgeworth box
 - The contract curve and Pareto efficiency

- Market trade
- Walras' law
- Price determination – an example
- First theorem of welfare economics
- Monopoly and price discrimination
- Second theorem of welfare economics
- 2) A pure production economy
 - The Edgeworth box
 - The contract curve and Pareto efficiency
- 3) Production and consumption
 - The production possibilities frontier
 - Efficiency in the product mix
- 4) Sources of market failure

Varian, Ch 30

Eaton, Eaton and Allen, Ch 13