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

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>Tuesday</td>
<td>11.00</td>
<td>E7B Mason</td>
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<tr>
<td>Wednesday</td>
<td>13.00 - 15.00</td>
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Evening Lectures

<table>
<thead>
<tr>
<th>Day</th>
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<tbody>
<tr>
<td>Tuesday</td>
<td>18.00 - 20.00</td>
<td>C5CT2</td>
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<tr>
<td>Wednesday</td>
<td>18.00</td>
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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:

<table>
<thead>
<tr>
<th>Component</th>
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<tbody>
<tr>
<td>Mid-semester Test 1</td>
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<tr>
<td>Mid-semester Test 2</td>
<td>20</td>
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<tr>
<td>Exam: multiple choice</td>
<td>20</td>
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<tr>
<td>Exam: essays/problems</td>
<td>40</td>
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<td><strong>Total</strong></td>
<td><strong>100</strong></td>
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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

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lecture Number</th>
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<td>April 6</td>
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<td>April 7</td>
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<td>MID-SEMESTER BREAK</td>
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<td>April 27</td>
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<td>June 9</td>
<td>36, 37</td>
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### 7. TEXT AND REFERENCE BOOKS
The set texts for the course are


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

**Supplementary Study Guide**

**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**

**Advanced**

**Mathematical**

**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, Ch 1
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
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, Ch 4 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
Managerial capitalism and control mechanisms

Varian, Ch 19 p333
Gravelle and Rees, Ch 6 and 13
Katz and Rosen, Ch 7 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, Ch 5

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
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, Ch9 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
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

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

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