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## MODULE GUIDE

# ECO2101 Microeconomic Analysis

Semesters 1 and 2

2023-24

## 1. Module aims and learning outcomes

### Aims

To equip the student with microeconomic concepts, and develop learners' problem-solving abilities in the context of intermediate-level microeconomics.

It is a core, compulsory 30-credit module in Economics that is taught in Stage 2. It was new-introduced in 2022-23 that combines material from the old 20-credit Microeconomic Analysis course (ECO2004) and from the second semester (10 credits) of Economic Modelling (ECO2003) – both of these modules are no longer offered. It consists of a structured series of lectures in microeconomic techniques and models that is supported by seminars. It provides instruction and knowledge on the main techniques for analysing economic issues and problems.

Key emphasis is placed on the knowledge and understanding the relevant frameworks / models in different contexts. The material builds on microeconomic principles that is covered at Stage 1, but it demands a higher degree of conceptualisation, a greater reliance on analysis and on the use of mathematical training that is undertaken at Stage 1.

It is a core module since it covers the economic techniques that are essential to microeconomic analysis at Stage 3 of the Economics programmes, for which it is a pre-requisite.

At a simple level, intermediate microeconomics is the theory behind the demand and supply curves, i.e., consumer and producer theory, although it is much more complex than this. It also includes choice under uncertainty, the theory of the industry and different theories of the firm. We also consider how microeconomics can be used to analyse situations in which agents both produce and consume, leading to a theory of the economy as a whole based on the optimising behaviour of individual agents, and known as general equilibrium theory.

All of this is known as Positive Economics, but in addition we consider Normative Economics, based on value judgements, i.e., what we think 'should happen' rather than issues of what 'will happen', so that it embraces notions of equity or fairness. Thus, we study welfare economics (i.e., how different allocations of goods and services affect the welfare of society) and market failure (the failure of a market economy to produce a socially efficient outcome).

### Intended Knowledge Outcomes

A formal and structured understanding of the theory and application of microeconomics principles at an intermediate level.

### Intended Skill Outcomes

Application of microeconomic analysis to appropriate topic areas. The use of formal analytical techniques in problem solving.

### How research informs this module

Economic research is at the heart of your programme of study. Throughout the module and through the extensive reading list you will learn about the original economic research that has led to the development of the theories and methods that are taught.

## Assurance of Learning (AoL)

The Business School has three overarching learning goals that the graduates from all our programmes should attain. These goals are derived from our mission and are

### **Disciplinary Competency:**

“Our graduates will have acquired a theoretical understanding of their chosen subject area and its applied relevance to contemporary business and management practice”

### **Ethical Awareness:**

“Our graduates will have the ability to understand and articulate relevant ethical values, principles, rights, and virtues from the point of view of different stakeholders”.

### **Global Perspective:**

“Our graduates will have critical awareness of the interactions of individuals and organisations within a global community and awareness of issues affecting the global business environment”.

Here, we will cover the first two goals of disciplinary competence and ethical awareness. The latter is measured through the assessed essay, where one of the questions is on oligopoly, and in particular the issue of cheating on an agreement and how this can be deterred.

Results from the assessment of these goals are collected separately for quality assurance purposes and feed into the continuous improvement of our programmes. They also form a core part of the Business School’s AACSB accreditation.

## 2. Staff Contacts

### Module leader:

**Prof. Colin Wren**

Email: [colin.wren@ncl.ac.uk](mailto:colin.wren@ncl.ac.uk)

Tel: 208 1644

Office: Room NUBS 7.18, Business School @ St James

You are also welcome to speak to him at the end of the lecture or seminar, or email him with an issue or if necessary to make an appointment.

### Other tutors (delivering the seminar sessions):

**Drs. Grega Smrkolj & Soeren Henn (Sem 1) and Roberto Bonilla & Tom Lane (Sem 2)**

If you want to discuss anything about the seminar material, then it is probably best and easiest to talk to the seminar leaders after the class. Alternatively, you are welcome to email them to make an appointment to meet at another time.

## 3. Module Teaching Schedule

### Structure

The course is a 30-credit module that is taught across both semesters. It covers a core Stage 2 syllabus. The teaching sessions consist of 34 one-hour lectures, 12 small-group seminars and 4 one-hour online sessions. Lectures are front-loaded towards semester 1, but seminars are split equally across semesters. The pattern of these are given below, and they should be

individually timetabled. The nature of the drop-in sessions to be notified in due course, of which one will be dedicated to feedback. The others are responsive to the queries raised by students, so the intention is not to go over new material, but to enhance existing learning.

Timetable week	Week beginning	Lectures	Seminars	Drop-ins	Lecture Topic (roughly)
<b>Induction (week 3)</b>					
4	25 September	1 and 2			Introduction
5	2 October	3 and 4			Consumer theory
6	9 October	5 and 6			
7	16 October	7 and 8	1		Theory of the industry
8	23 October	9 and 10	2		
9	30 October	11 and 12	3	1	
<b>Enrichment week (10) - no formal classes</b>					
11	13 November	13 and 14			
12	20 November	15 and 16	4		Theories of the firm
13	27 November	17 and 18	5		Producer theory
14	4 December	19 and 20	6	2	
<b>Vacation (16-18), Assessment period (19-20) and break (21)</b>					
22	29 January	21 and 22			Choice under uncertainty
23	5 February	23 and 24	7		
24	12 February	25 and 26	8		Production and consumption
25	19 February	27 and 28	9	3	General equilibrium theory
26	26 February	29 and 30			
27	4 March	31 and 32	10		Welfare economics
28	11 March	33 and 34	11	4	Market failure
29	18 March		12		
<b>Vacation (30-33) and Assessment period (37-39)</b>					

## Method

The lecture material is slightly weighted towards the first semester, with the intention that we will cover this by the end of the second term. The seminars timed to lag the lecture material, and so will commence some time into first semester, with breaks to allow the lecture material to run ahead of these. The drop-in sessions are timed at key points, and it may be necessary to add further classes, but I shall keep this under review.

I shall organise the lectures around **Lecture Slides**, which are posted under the Modules tab on Canvas. You will hopefully find these useful, and it may be best to print them off for yourselves to take notes. The slides offer a clear structure to the material and highlight the key points.

The slides make reference to **Handouts**, which are used to support the lecture material, and you will also find these under the same tab on Canvas. You will need to print-off the **Seminar Sheets** for twelve sessions or have them available electronically in class.

The **Seminars** lag the lecture material, and the **Seminar Sheets** are found under the same tab on Canvas. You should look at these sheets prior to class, have a go, and be prepared to discuss, so that the seminars act as **feedback** to judge your own progress.

**NOTE: SEMINARS ARE INTEGRAL TO THE COURSE. ATTENDANCE AT THESE IS REQUIRED. THE SEMINAR ANSWERS WILL NOT BE RELEASED OUTSIDE OF THE CLASSES.**

In addition, I have scheduled **Drop-ins**. These are online for the year as a whole, but timetabled, and the **Zoom link** and the nature of these will be notified in due course and posted on the **Canvas site**. In general, they will be reactive, in response to issues raised, although in one of them I shall discuss sample answers in the light of the **Grade Range and Assessment Criteria**.

I will aim to **Recap** the lectures, and this will be available under the **Recap tab** on Canvas. **The seminars will not be Recapped**, as is common practice within the Economics subject group.

There is no formal teaching in Timetable Week 10 (week beginning 6<sup>th</sup> November), which is an **Enrichment Week**, for which other programme events will be scheduled.

## Assessment

The assessment for the module is towards the end of Semesters 1 and 2, and it consists of:

An **unseen exam** in the second semester assessment period, in which you will be required to answer four questions from a free choice of ten in a 3-hour exam (80% of overall mark).

An **assessed essay**, which will be set just prior to Enrichment Week, for which the submission date is **Friday 1<sup>st</sup> December**. There is a choice of two essay questions (20% of overall mark).

As feedback, the essay will be returned towards the beginning of semester 2, so that it can be used for formative assessment purposes, as well as summative assessment (i.e., 20%).

The essay questions will be posted on Canvas under **Assignments**, and this will be announced on Canvas and in the lectures.

## 4. Reading list

There is a choice of main texts for the course. Both should be available in the Bookshop. The Estrin *et al.* text goes along at a good level, and combines diagrammatic and mathematical

approaches. It is good on things such as oligopoly. Mochrie is more recent and is possibly more sophisticated. Neither book covers the whole syllabus, so that some additional texts are given. Some are European versions of U.S. manuals, but below, I also give some older UK texts, that should be available from the Library, but possibly from the stores.

#### **Main texts:**

Estrin, S., Laidler, D. and Dietrich, M., *Microeconomics*, 2012, 6<sup>th</sup> edition.

Mochrie, R., *Intermediate Microeconomics*, Palgrave Macmillan, 2016.

#### **Additional texts:**

There are many alternative textbooks; some of the recent ones are as follows. You are NOT expected to read all these, but if you want further details then you might consult them:

Cowell, F., *Microeconomics: Principles and Analysis*, Oxford, 2005.

UK text with good diagrammatic analysis and useful insights, but possibly more of a third year or graduate text.

Frank, R. H., *Microeconomics and Behaviour*, McGraw-Hill, 7<sup>th</sup> ed., 2008.

US text. It is not very mathematical and so accessible, but slightly idiosyncratic in its coverage and treatment of subjects.

Hey, J. D., *Intermediate Microeconomics*, McGraw-Hill, 2003.

UK text; idiosyncratic in treatment, but short chapters, easy to understand and diagrammatic analysis. Has some useful material not covered by other texts.

Morgan, W., Katz, M. and Rosen, H., *Microeconomics*, McGraw-Hill, 2006.

US European edition, quite wordy, but has good coverage and non-mathematical.

Nicholson, W. and Snyder, C., *Microeconomic Theory and its Applications*, Cengage Learning, Boston, 12<sup>th</sup> ed., 2015 (earlier editions authored by Nicholson only). Used to be a recommended text. Again, US international student edition. Latest version has cut back on mathematics, and gives good explanations.

Perloff, J. M., *Microeconomics*, Pearson International Edition, 6<sup>th</sup> ed., 2012.

Bit too American and a bit too first year, reliant on diagrammatic treatment.

Pindyck, R. S. and Rubinfeld, D. L., *Microeconomics*, Pearson, 6<sup>th</sup>, ed. 2005.

Used to be recommended text. Again US text, which has reasonable coverage and has diagrammatic and algebraic treatments.

Varian, H. R., *Intermediate Microeconomics (with Calculus)*, Norton, 1<sup>st</sup> ed., 2014.

Used to be the main text, and is widely used in intermediate economics courses elsewhere, so that it has a good track record, but idiosyncratic in coverage.

#### **Older UK texts:**

Some older UK texts that you may find useful, and can be obtained from the library as follows:

Dobson, S., Maddala, G. and Miller, E., *Microeconomics*, McGraw-Hill, 1995.

Else, P. and Curwen, P., *Principles of Microeconomics*, Unwin Hyman, 1990.

Gravelle, H. A. J. and Rees R., *Microeconomics*, Prentice Hall, 3<sup>rd</sup>, ed., 2004.

Koutsoyiannis, A., *Modern Microeconomics*, Macmillan, 2<sup>nd</sup> ed., 1979.

Layard, P. R. G. and Walters, A. A., *Microeconomic Theory*, McGraw-Hill, 1978.

## 5. Syllabus and Readings

**The syllabus for the module is defined by the lectures and seminars.**

The relevant sections of the texts are given below, but clearly you are not expected to read them all (!), but to focus on the main ones to give you a good understanding of the material.

### Lecture 1: Introduction

Overview of module, with introductory lecture on optimization.

- Estrin *et al*, Ch 1.
- Mochrie, Ch 1.
- Nicholson and Snyder, Ch 2 (part).
- Varian, Chs 1 and 2.
- Gravelle and Rees, Mathematical Appendices, 657-79.
- Tisdell, C. A., *Microeconomics: The Theory of Economic Allocation*, John Wiley, 1972, Ch 2.

### Lectures 2-7: Consumer theory

Neoclassical consumer theory: Preference relations and indifference curves.

The utility function and its properties.

Marshallian and compensated demand functions.

Revealed preference theory and price indices.

- Estrin *et al*, Chs 2 to 4.
- Mochrie, Chs 3 to 8.
- Pindyck and Rubinfeld, Chs 2 and 3.
- Nicholson and Snyder, Chs 2 and 3.
- Frank, Chs 3 to 5.
- Varian, Chs 3 to 8, 14 and 15.
- Dobson *et al*, Chs 2 and 3.
- Gravelle and Rees, Chs 2, 3 and 4.
- Else and Curwen, Chs 2, 3, 5 and 6.
- Tisdell, *op cit*, Ch 6.
- Green, H. A. J., *Consumer Theory*, Macmillan, 1976, Chs 2 to 6, 8 and 10.
- Simmons, P., *Choice and Demand*, Macmillan 1974, Chs 2 and 3.
- Shone, R., *Microeconomics: A Modern Treatment*, Macmillan, 1975, Chs 2, 3, 4.
- Henderson, J. M. and Quandt R. E., *Microeconomic Theory: A Mathematical Approach*, McGraw Hill, 3rd ed, 1980, Chs 2 and 3.
- Earl, P. E., *Microeconomics for Business and Marketing*, Edward Elgar, 1985, Ch 3.

### Lectures 8-13: Theory of the industry

Cournot and Stackelberg oligopoly models, Bertrand model and efficiency.

Collusive oligopoly: joint-profit maximization and the stability of cartels.

Monopoly: price and output determination.

Price discrimination and efficiency.

- Estrin *et al*, Chs 12, 14 to 16.
- Mochrie, Chs 15 to 17.

- Pindyck and Rubinfeld, Chs 10 to 12.
- Nicholson and Snyder, Chs 11 and 12.
- Frank, Chs 12 and 13.
- Varian, Chs 24, 25, 27 and 28.
- Dobson *et al*, Chs 9, 10 and 11.
- Gravelle and Rees, Chs 9 and 16.
- Else and Curwen, Chs 12, 13, 14 and 15.
- Koutsoyiannis, Chs 6, 7, 8, 9, 10 and 13.
- Hirshleifer, *op cit*, Chs 8 and 10.
- Cohen, K. J. and Cyert, R. M. , *The Theory of the Firm: Resource Allocation in a Market Economy*, Prentice Hall, 1965, Chs 10, 11 and 12.

### Lectures 14-15: Theories of the firm

The owner-managed, profit-maximizing assumption.

Managerial discretion and the principal-agent problem. The sales revenue model and expense preference model. The effect of taxation.

Alternative approaches, such as the labour-managed firm.

- Estrin *et al*, Ch 11 (part).
- Mochrie, Ch 13.
- Dobson *et al*, Ch 6.
- Gravelle and Rees, Ch 20.
- Else and Curwen, Ch 16.
- Koutsoyiannis, Chs 15, 16, 17, 18.
- Tisdell, *op cit*, Ch 17.
- Hirshleifer, *op cit*, Ch 6.
- Cohen and Cyert, *op cit*, Chs 16 and 17.

### Lectures 16-19: Producer theory

The production function: linear programming and neoclassical approaches.

Cost minimization and the cost function.

Homogeneous production functions, including the Cobb-Douglas function.

- Estrin *et al*, Chs 8 to 10 and 11 (part).
- Mochrie, Chs 10 to 12.
- Pindyck and Rubinfeld, Ch 6 to 8.
- Nicholson and Snyder, Chs 6 and 7.
- Frank, Chs 9 and 10.
- Varian, Chs 18 to 22.
- Dobson *et al*, Chs 4 and 5.
- Gravelle and Rees, Chs 5 and 6.
- Else and Curwen, Chs 9, 10, 11, 17.
- Koutsoyiannis, Chs 3, 4 and 5.
- Tisdell, *op cit*, Ch 7.
- Heathfield, D. F. and Wibe, S., *An Introduction to Cost and Production Functions*, Macmillan, 1987, Chs 1, 2, 3, 4 and 5.
- Lancaster, K., *Introduction to Modern Microeconomics*, Rand McNally, Chs 4 and 5.



- Hirshleifer, J., *Price Theory and Applications*, Prentice Hall, 4th ed, 1988, Chs 9, 11.
- Simpson, D., *General Equilibrium Analysis*, Basil Blackwell, 1975, Chs 2 and 3.

### **Lectures 20-23: Choice under uncertainty**

Decision rules for state-contingent outcomes.

Expected values and the St Petersburg paradox.

Expected utility theory, the ex-post utility function and attitudes to risk.

Applications to insurance.

Criticisms of expected utility theory.

- Estrin *et al*, Ch 7.
- Mochrie, Ch 26.
- Pindyck and Rubinfeld, Ch 5.
- Nicholson and Snyder, Ch 4.
- Frank, Chs 6 and 8.
- Varian, Ch 12.
- Dobson *et al*, Ch18.
- Gravelle and Rees, Ch 17.
- Green, *op cit*, Chs 13 and 14.
- McKenna, C. J., *The Economics of Uncertainty*, Wheatsheaf Books, 1986, Chs 2, 3.
- Borch, K. H., *The Economics of Uncertainty*, Princeton, 1976, Chs 1, 2, 3, 4, 6, 7.

### **Lectures 24-26: Production and consumption**

Robinson-Crusoe economy. Robinson-Crusoe and Man Friday economy.

Several outputs: the Edgeworth-Bowley box, the production possibility curve.

Application to international trade.

- Estrin *et al*, Ch 22.
- Mochrie, Chs 21 and 25 (parts).
- Varian, Chs 9 and 30; Gravelle and Rees, Ch 11.
- Sodersten, B., *International Economics*, Macmillan, 2nd ed, 1980, Chs 1, 3 and 10.
- Kindleberger, C. P. and Lindert, P. H., *International Economics*, R. Irwin, 1978, Ch 3.

### **Lectures 27-29: General equilibrium theory**

The 2 x 2 x 2 model and Walrasian general equilibrium.

General equilibrium and a diagrammatic treatment.

Walras Law, and existence, uniqueness and stability of equilibrium.

- Estrin *et al*, Ch 21.
- Chs 20 and 21.
- Pindyck and Rubinfeld, Ch 16.
- Nicholson and Snyder, Ch 10.
- Frank, Ch 16. Varian, Chs 29.
- Gravelle and Rees, Ch 12.
- Koutsoyiannis, Ch 22.
- Layard and Walters, Ch 2.
- Bohm, P., *Social Efficiency: A Concise Guide to Welfare Economics*, Macmillan, 1987, Ch 1.

- Weintraub, E. R., General Equilibrium Analysis, Macmillan, 1974, Ch 3.

### Lectures 30-32: Welfare economics

Value judgements, inter-personal utility comparisons and ethical judgements.

The Pareto criteria: Pareto improvements and efficiency.

Welfare maximization.

Fundamental theorems of welfare economics.

Criticisms of Pareto: alternative welfare systems, utilitarianism and Rawls.

- Estrin et al, Ch 23.
- Mochrie, Chs 20 and 21 (parts).
- Pindyck and Rubinfeld, Ch 16.
- Nicholson and Snyder, Ch 10.
- Varian, Ch 31 and 32.
- Dobson et al, Ch 16.
- Gravelle and Rees, Ch 13.
- Else and Curwen, Chs 20, 21 and 22.
- Koutsoyiannis, Ch 23.
- Layard and Walters, Ch 1.
- Johansson Per-Olav, An Introduction to Modern Welfare Economics, CUP, 1992.
- Winch, D. M., Analytical Welfare Economics, Penguin, 1971, Chs 1, 4, 5 and pp. 110-16.

### Lectures 33-34: Market failure

Market failure and the nature of government intervention.

Pure public goods, and possible solutions to market failure.

Externalities, the Coase theorem and other solutions.

- Estrin et al, Ch 24.
- Mochrie, Chs 22 and 23.
- Pindyck and Rubinfeld, Ch 18.
- Nicholson and Snyder, Ch 16.
- Varian, Ch 31 and 32.

## 6. Communication

Canvas is the most important tool for communicate of the course material, as indicated above, and I shall make announcements using this. Please raise issues with me, but you are also encouraged to raise broader issues at the Student Voice Committee.

## 7. Assessment

### Pre- and post-assessment

I plan to offer support through a **Pre-assessment session**, in which I shall go through previously submitted essays and feedback on a previous exam question to indicate how to structure an answer. There is a **Post-assessment** for the module performance that will be posted on Canvas under Assignments after the release of marks. Last year's report is posted there, and offers

important **feedback**. Requests for feedback on the unseen exam must be received **within 20 working days of the return of the work**.

### Marking criteria

The **UG Grade Range criteria** are available in your degree programme handbook and on Canvas under the Assignment tab. This is for the unseen exam.

Bear in mind, as in all your work, we are looking for both **knowledge and understanding**.

As well as good content, **understanding is important in distinguishing good scripts**. It can be demonstrated in many ways, e.g., good structure, relevant content, good depth of analysis, use of diagrams (which are clearly drawn, do not contain errors and are referred to and explained in the text), explanation, clear definition of concepts (including those in the question), and the absence of errors (fundamental errors or repeated less serious errors). There should also be a crisp introduction that acknowledges your appreciation of the topic under investigation, and a concluding section that briefly summarises your answer and considers implications.

Colin Wren

September 2023