

ECON0013 Microeconomics

Course Outline

Course Lecturers:

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Aims: This course is designed to provide students with a rigorous grounding in the core concepts and methods of microeconomics. At the end of the course, a student should:

- Understand microeconomic theory at a level appropriate for an economics graduate.
- Understand how to analyze these models using the relevant techniques.
- Be able to address economic phenomena using these techniques.

Texts: The main text is: *Microeconomics: Principles and Analysis* [F. Cowell, OUP 2006]. This can be supplemented with the easier books: *Microeconomic Theory: Basic Principles and Extensions* [Nicholson, South-Western 2005] and *Intermediate Microeconomics* [Varian, Norton 2003]. A more advanced book for an ambitious student is: *Microeconomics* [Gravelle and Rees, Pearson 2004].

Other Materials: Copies of the slides used, the problem sets and answers will be posted on the course website.

Assessment: There are five components to assessment:

- Two online multiple choice examinations, one at the end of each term (TEN PERCENT of the final mark each)
- TWO group projects, one in each term (TEN PERCENT of the final mark each)
- ONE written take-home examination in the third term requiring answers to THREE longer problem-type questions, of which at least ONE to be answered from Part A and at least ONE to be answered from Part B (SIXTY PERCENT of the final mark)

Required coursework: Four problem sets for Term 1 and four problem sets for Term 2

Course Outline:

Term 1:

I.1 Games in Strategic Form

- I.1.1 Describing games in strategic form
- I.1.2 Dominance and Nash equilibrium
- I.1.3 Finding Nash equilibria

I.2 Games in Extensive Form

- I.2.1 Extensive form games
- I.2.2 Nash equilibrium and backwards induction
- I.2.3 Subgame perfect equilibrium

I.3 Monopoly and Oligopoly

- I.3.1 Monopoly
- I.3.2 Static oligopoly
- I.3.3 Dynamic oligopoly

I.4 Perfect competition

- I.4.1 Production sets and functions
- I.4.2 Profit maximisation
- I.4.3 Cost minimisation

I.5 Adverse Selection

- I.5.1 Lemons and risk
- I.5.2 Insurance and market failure
- I.5.3 Two part tariffs
- I.5.4 Optimal screening

I.6 Moral Hazard

- I.6.1 Introduction and bank loans
- I.6.2 Contracts and risk neutrality
- I.6.3 Contracts and cost of risk

I.7 Economic Design and Mechanisms

- I.7.1 Mechanisms
- I.7.2 Auctions

Term 2:

I.1 Budget Constraints and Consumer Demand

- I.1.1 Linear budget constraints
- I.1.2 Nonlinear budget constraints
- I.1.3 Total budget effects
- I.1.4 Price effects
- I.1.5 Adding up
- I.1.6 Homogeneity

I.2 Revealed Preference and the Law of Demand

- I.2.1 Direct revealed preference and WARP
- I.2.2 Indirect revealed preference and SARP
- I.2.3 Slutsky compensation and the law of demand
- I.2.4 Negativity in general
- I.2.5 Slutsky equation

I.3 Consumer Preferences

- I.3.1 Preference relations
- I.3.2 Consumer rationality
- I.3.3 Continuity and utility
- I.3.4 Nonsatiation and indifference curves
- I.3.5 Convexity and diminishing MRS
- I.3.6 Homotheticity and quasilinearity
- I.3.7 Examples

I.4 Consumer Choice

- I.4.1 Consumer choice
- I.4.2 Income expansion paths
- I.4.3 Expenditure minimisation
- I.4.4 Expenditure function and indirect utility function
- I.4.5 Shephard's lemma, Roy's identity and the Slutsky equation
- I.4.6 Integrability

I.5 Consumer Welfare

- I.5.1 Consumer surplus
- I.5.2 Cost of living indices

- I.5.3 Laspeyres and Paasche indices
- I.6 Labour Supply and Demand with Endowments
 - I.6.1 Endowments
 - I.6.2 Price and income effects
 - I.6.3 Labour supply
- I.7 Saving and Borrowing
 - I.7.1 Intertemporal choice
 - I.7.2 Consumption Euler equation
 - I.7.3 Asset choice
- I.8 Choice under Uncertainty
 - I.8.1 Budget constraints under uncertainty
 - I.8.2 Preferences under uncertainty
 - I.8.3 Risk aversion
 - I.8.4 Insurance and gambling behaviour
- I.9 General Equilibrium
 - I.9.1 Edgeworth-Bowley box
 - I.9.2 Trade and equilibrium
 - I.9.3 Walras' law, existence and uniqueness
 - I.9.4 Equilibrium with production
- I.10 Welfare Theorems and Public Goods
 - I.10.1 First welfare theorem
 - I.10.2 Second welfare theorem
 - I.10.3 Welfare theorems with production
 - I.10.4 Public goods