Aims

EC2501 is the second year course in microeconomic analysis and policy, which can be chosen as a substitute for EC2201. The course addresses the behaviour of individuals and firms in the economy, examining issues such as individual optimisation, the behaviour of the firm in different market environments, exchange and general equilibrium frameworks. Applications to various markets such as the labour market will be discussed as well as market failures in the presence of asymmetric information, externalities, and public goods. This course, differently from the other second year microeconomics courses offered in the department, makes extensive use of calculus.

Learning Outcomes

Upon completing the course, students should:

- Understand models of individual optimisation and their applications, being able to identify the key determinants of an individual’s behaviour in a variety of circumstances.
- Understand the behaviour of firms in different market environments such as perfect competition, monopoly and oligopoly, and the factors which are important in shaping the decisions that firms make in each market environment.
- Understand applications and extensions to the models studied, and be able to explain how changing circumstances and new information influences the actions of the economic agents concerned.
- Understand the properties of competitive markets.
- Understand market failures and the role of government intervention.
- Be able to manipulate and solve diagrammatic and algebraic models of microeconomics.
- Understand the limitations of the models studied.

Course Delivery

The course will be delivered through two one-hour lectures and a one-hour seminar every week. Seminars will complement the lectures by either reviewing the materials taught in the lectures or solving practice problems.

Students will be given 5 problem sets during the course of the term. These will be solved and reviewed in the seminars. Poor attendance in the lectures and seminars could result in your being given an ‘Attendance Fail’ (AF) for the entire course and even cost you the academic year.

The lecturer and seminar leaders are available for consultation during advertised office hours or by prior appointment at other times.
Assessment

Assessment for EC2501 Microeconomics is based on a 3-hour unseen written examination in the Exam term (60%), and on two additional exams (20% each) that will be held at the end of each term. Specific information on the time and location for those examinations will be announced later during the term and in the student handbook.

Reading

The main textbook for this course is:


Multiple copies of this book are available in the Bedford Library. However, much of the content of the course will closely follow that of this textbook. Therefore, students are strongly encouraged to buy their own copy.

Course Outline

Below is an outline that the course will roughly follow.

Autumn Term:

**Topic 1: Introduction and Mathematical Review**
Reading: Snyder & Nicholson, Chapters 1 & 2
By the end of this unit, students should:
- Understand the scope of microeconomics.
- Understand the concept of an economic model.
- Be familiar with constrained optimization.
- Review the necessary mathematical tools.

**Topic 2: Consumer Preferences and Utility**
Reading: Snyder & Nicholson, Chapter 3
By the end of this week, students should:
- Be familiar with the assumptions economists make about the preferences of consumers.
- Understand how preferences can be represented by utility functions.
- Be aware of the relation between utility and indifferences curves.
- Be able to calculate the marginal rate of substitution.
- Be familiar with important special types of utility functions.

**Topic 3: Utility Maximization and Choice**
Reading: Snyder & Nicholson, Chapter 4
By the end of this week, students should:
- Be familiar with the consumer’s budget constraint.
- Understand how the budget constraint changes with changes in prices and income.
- Be able to determine the optimal consumption bundle given a budget constraint.
- Be familiar with the consumer’s expenditure function.
**Topic 4: Demand, Income and Substitutions Effects and Consumer Welfare**  
Reading: Snyder & Nicholson, Chapter 5 and Chapter 6  
By the end of this week, students should:  
- Understand how a consumer’s demand changes with prices and income.  
- Understand how the effect of a change in prices can be decomposed into income and substitution effects.  
- Be able to distinguish between normal goods, inferior goods and Giffen goods.  
- Be familiar with the concept of consumer surplus.  
- Understand simple applications of consumer analysis.  
- Be familiar with the idea of revealed preferences.

**Topic 5: Production Functions**  
Reading: Snyder & Nicholson, Chapter 9  
By the end of this week, students should:  
- Be familiar with production functions.  
- Understand the average and marginal product of inputs.  
- Be familiar with the concepts of isoquants and the marginal rate of technical substitution.  
- Understand the idea of returns to scale.  
- Understand the idea of elasticity of substitution.

**Topic 6: Cost Functions**  
Reading: Snyder & Nicholson, Chapter 10  
By the end of this week, students should:  
- Be familiar with the concept of opportunity costs.  
- Understand the effects of changes in input prices.  
- Be able to derive average and marginal cost curves and understand their roles.  
- Be able to find the cost minimizing input combination in the short-run and in the long-run.  
- Understand the difference between fixed and variable costs.

**Topic 7: Profit Maximization and Supply**  
Reading: Snyder & Nicholson, Chapter 11  
By the end of this week, students should:  
- Understand the connection between marginal cost and profit maximization.  
- Understand marginal revenue and its role in profit maximization.  
- Understand price-taking behaviour.  
- Understand the supply of a firm in the short-run and long-run.  
- Be familiar with the concepts of economic rent and producer surplus.

**Topic 8: Competitive Markets – Partial Equilibrium**  
Reading: Snyder & Nicholson, Chapter 12  
By the end of this week, students should:  
- Be familiar with the characteristics of perfectly competitive markets and their implications.  
- Be familiar the short-run market supply curve.  
- Understand the market price and understand how equilibrium in a goods market is determined.  
- Understand comparative statics.  
- Be familiar with the long-run market supply.  
- Be familiar with the welfare cost of price controls and trade restrictions.
Spring Term:

**Topic 1: General equilibrium**
Reading: Snyder & Nicholson, Chapter 13
By the end of this week, students should:
- Understand the difference between partial and general equilibrium models.
- Understand the concept of Pareto optimality.
- Be able to derive the equation for contract curves using the Pareto optimality condition.
- Be able to graphically represent a pure exchange economy using the Edgeworth Box.
- Be able to compute the competitive equilibrium price and allocation in a pure exchange economy.
- Be able to state the welfare theorems and understand their significance.
- Be able to apply the general equilibrium framework to analyse trade and optimal trade policies.

**Topic 2: Monopoly**
Reading: Snyder & Nicholson, Chapter 14
By the end of this week, students should:
- Understand the conditions that give rise to monopolies.
- Be able to solve for a monopolist’s profit maximizing quantity of production and price.
- Understand measures of a monopolist’s market power and relate to consumer demand.
- Understand the welfare properties of monopolies and compare to competitive markets.
- Understand the different types of price discrimination.

**Topic 3: Game theory and strategic behaviour**
Reading: Snyder & Nicholson, Chapter 8
By the end of this week, students should:
- Understand the basic tools and terminology used for analysing games.
- Be able to represent a game using extensive and normal forms.
- Understand the distinction between different gaming protocols such as simultaneous/sequential, cooperative/non-cooperative, repeated etc.
- Be able to identify strategies that are dominant or dominated if they exist.
- Be able to solve for the Nash equilibrium strategies and outcomes of games.

**Topic 4: Imperfect competition**
Reading: Snyder & Nicholson, Chapter 15
By the end of this week, students should:
- Understand the characteristics of oligopolies.
- Understand the distinction between Cournot, Stackelberg and Bertrand models.
- Be able to compute the Nash equilibrium prices/output in Cournot, Stackelberg, Bertrand models.
- Be able to compare the equilibrium prices/output as well as welfare properties of competitive markets, monopolies and the oligopolies.
**Topic 5: Labour Markets**  
Reading: Snyder & Nicholson, Chapter 16  
By the end of this week, students should:  
- Understand the specification of preferences and time constraints in a labour supply model.  
- Be able to solve an agent’s utility maximization problem and derive the labour supply curve.  
- Understand the differences between a competitive labour supply market and monopsony.  
- Be able to solve for the optimal wage and hiring decisions of a monopsonist firm.

**Topic 6: Capital Markets and Time**  
Reading: Snyder & Nicholson, Chapter 17  
By the end of this week, students should:  
- Understand the concepts of intertemporal consumption allocation and capital accumulation.  
- Understand the dynamic tradeoffs firms and consumers face in relation to preferences, rate of return on capital and patience.  
- Be able to solve for a firm’s optimal demand for capital.

**Topic 7: Risk and Uncertainty**  
Reading: Snyder & Nicholson, Chapter 7  
By the end of this week, students should:  
- Understand the basic statistical tools used to characterize environments with uncertainty.  
- Understand the properties of preference and choice behaviour in the presence of uncertainty.  
- Be able to state the expected utility theorem and its limitations.  
- Understand different attitudes towards risk and measures of risk aversion.  
- Understand how insurance markets arise in economies with uncertainty and risk-averse agents.  
- Apply to the portfolio problem, a central topic in financial economics.

**Topic 8: Asymmetric Information**  
Reading: Snyder & Nicholson, Chapter 18  
By the end of this week, students should:  
- Be able to define and give examples to adverse selection and moral hazard.  
- Be able to explain and give examples to how market failure may arise due to adverse selection and moral hazard.  
- Understand the different ways to prevent market failures and support efficient allocations as equilibrium outcomes in economies with asymmetric information.  
- Be able to understand the application of these concepts to markets for insurance, lemons etc.