Economics Year 3 Unit Selection, 2022/23

In Year 3 you will have the space in your programme to specialise on certain areas of economics. Below we introduce you to the units which are on offer and highlight their main features. They are categorised as either Core Economic Units, Advanced Economic Theory units, Applied Economics units, Mathematical Economics units, Econometrics units and Dissertation units.

Where not mentioned otherwise all Economics units are 10 credit units.

You can find more details on all units via the [course unit information database](https://my.manchester.ac.uk/uPortal/f/mylearning/p/course-unit-info.u29l1n5206/max/render.uP?pP_location=%2FCourseUnitPublishing%2FCourseUnitDataFiles%2FECON%2F037896ECON101922020-07-291V6.xml&pP_action=viewCUDetails) (requires you to login).

# Economics Core Units

If your programme allowed you to complete Micro- and Macroeconomics 1 and 2 course units in Year 1 and 2 (PPE, IBFE, Modern History with Economics) then you can, in your third year, complete the full set of core economics units: Microeconomics 3 and 4 as well as Macroeconomics 3 and 4.

If you are considering to apply to an economics postgraduate programme or are just interested in understanding how modern economics allows you to think about important economic problems of our time, then you should certainly enrol into these units.

# Advanced Economic Theory Units

For students who completed all core economics units in their first two years (Micro- and Macroeconomics 1 to 4 or Micro- and Macroeconomic Analysis 1 to 4) the economics department offers Advanced Micro and Macro theory units.

If you are considering applying for a postgraduate degree in Economics, then having these units on your CV will certainly put you at an advantage.

## ECON30001 Advanced Microeconomics

This is a 20 credit unit.

The unit covers a range of topics of Microeconomics at the advanced undergraduate level. Topics can include choice under risk and uncertainty, asymmetric information, valuing information, screening, moral hazard, elements of contract theory and mechanism design, game theoretic applications such as auctions and bargaining, and methods of experimental economics.

## ECON30002 Advanced Macroeconomics (20 credits)

This is a 20 credit unit.

The course focuses on the role of information, expectations and beliefs in macroeconomic. These elements have been increasingly recognized in recent years as playing a key role in shaping macroeconomic outcomes and determining the effects of monetary and fiscal policies.

The aim of this unit is to give students an understanding of the role played by information, beliefs and expectations in macroeconomics. Alternative theories of expectations formation and information acquisition and processing will be studied, with an emphasis on their policy implications. Students will learn and understand the consequences for macroeconomic outcomes of different information structures and of different assumptions about the degree of rationality of economic agents.

# Applied Economic Units

From these units you should select the units which you either think are important preparation for your future career and/or those units which you are personally most interested in.

## ECON30451 Topics in Development Economics: the Role of Incentives in Politics, Markets and Institutions

This is a 20 credit unit.

The module aims at familiarizing the students with the key theoretical concepts of micro-development to understand how the micro-foundation of Development Economics can ultimately have an impact on the long run growth. In particular, the students will learn about how asymmetries in information can determine market failures that characterize countries in the developing world by undermining individual incentives and they will be exposed to the solutions that have been adopted to deal with them.

In line with the current trend in Development Economics, the perspective we adopt in this course is quite micro oriented. In particular we will focus on financial markets, agricultural organization, industrial organization, provision of public goods and services, and time permitting, political economy of institutional change in developing countries. Students will explore both theoretical and empirical models to understand how missing or incomplete markets for land, credit and insurance give rise to peculiar institutions that we observe in developing countries, particularly in rural areas.

Students will be exposed to a variety of theoretical and quantitative methods/tools that economists use and to how they can be appropriately applied and interpreted. These methods and tools are used in practical and academic settings to test economic theories and measure magnitudes that are relevant for economic policy analysis and other decisions. These methods are a key element of the professional training an economist; they will provide a foundation for subsequent study of applied and quantitative topics and are useful in many careers in economics.

## ECON30041 Topics in Inequality and Poverty

This is a 20 credit unit.

The unit aims to provide students with a broad understanding of the theories underlying the dynamics of inequality and poverty; a systematic exposition of the different measures of poverty and inequality. It will also critically examine the existing evidence on inequality and poverty, and the role of government policy in it. Through this unit you should be able to follow and comprehend the broad debates on poverty and inequality.

## ECON32121 Public Economics

This course will provide an introduction to the economic analysis of public policy issues. The focus of the course will be on the development of up-to-date analytical tools, drawn from recent research, and their application to key policy issues relating to the spending, taxing and financing activities of government. The main part of the course will be devoted to taxation, behavioural responses and the design of tax policy. We would begin by examining the effects of taxes and transfers on labour supply and reported income, and then go on to consider incomes and behavioural responses at the top of the income distribution. We would look at the implications of taxation for economic efficiency and explore the optimal taxation of commodities and income.

## ECON32111 Climate Change Economics and Policy

By studying this unit will introduce students to recent research developments in climate change economics & policy analysis by providing an overview of concepts, formal techniques and a range of practical applications. Students will develop understanding and ability to critically reflect on the use of these formal methods and quantitative analytical techniques to support decision making in the climate change context. This will equip students to participate in discussion of climate change policy through an economic lens.

As part of this course unit you will develop knowledge and skills required for writing a position paper on a topic covered in the course.

By the end of the course students will have a solid understanding of humans’ role in global climate change, the inter-temporal efficiency of climate change mitigation measures, and the international distribution of responsibility for climate change policy. They should also be able to identify why market institutions fail in protecting the local and global environment, and describe and articulate effective ways to encourage more coordination and cooperation, design better incentive structures, and promote more protection. They will be familiar with the main recent statistics and policies with respect to climate change and its mitigation in the UK and internationally and they will be able to explain the economics methods used to analyse and support decisions on mitigation efforts. Based on the topics and examples covered students will develop a rigorous and critical understanding of mitigation approaches and climate policies from an economic perspective.

## ECON32191 International Trade and Policy

This is a 20 credit unit.

The aims of this course are to: (i) study the basic facts of international trade flows; (ii) discuss different international trade theories, their empirical evidence and policy implications; (iii) introduce methods for trade policy analysis.

At the end of this course unit it is expected that students will be able to: (i) understand the causes and effects of international trade; (ii) evaluate the welfare impacts of trade policies; (iii) demonstrate an understanding of various contemporary issues in trade, such as trade and growth, industrialisation, inequalities and global production structure.

## ECON30102 The Chinese Economy

The aims of this course are: (i) to provide an overview of the Chinese economy; (ii) to discuss the different perspectives on the current issues of the Chinese economy; (iii) to evaluate the problems and potentials of Chinese economy; (iv) to familiarise students with the economic/business environment in China; (v) to apply economic theories to a real economy.

## ECON30232 Natural Resource Economics

This course explores the use of natural resources from an economic perspective. The goal is to examine economic theories of natural resource scarcity and sustainability, conflicts and environmental degradation from natural resource use. It aims to provide the students with an analytical understanding of the neoclassical economics analysis of the exploitation of natural resources and markets for non renewable resources (e.g. minerals and oil), and renewable resources (e.g. fisheries and elephants/ivory).

At the end of this course students should be able to:

* demonstrate their understanding of some of the fundamental relationships between economic activity and the ‘natural environment’;
* demonstrate their understanding of the optimal rate of use of non renewable natural resources and the role of the interest rate, extraction costs and backstop technologies on the price and supply path;
* use bioeconomic models & demonstrate their understanding of the optimal rate of use of renewable natural resources and role of property rights regimes.

## ECON32202 Topics in Health Economics

This unit aims to:

1. enable students to develop a critical understanding of the basics of health economics

2. introduce students to the health economists’ ’toolkit’, the ways it can be used in the process of policy development, and its limitations

At the end of the module, successful students should be able to demonstrate:

* The ways in which health and health care are different to other economic goods
* The economic decisions and processes that drive the demand for and the production of ’health’ and ’health care’
* The health care market, how it can fail, and the role of government in healthcare
* How poor health is insured against and how health care is financed in different countries
* How to measure equity in the distribution and finance of health care
* How to measure health care output and alternative methods to determine a fair and efficient distribution of health

## ECON30852 Money Banking & Financial Markets

The aim of this course is to introduce students to the way that banks, financial markets and monetary policy work and interact in theory and practice. We examine how bond and money markets operate and how interest rates behave. We also look into some of the problems and dilemmas that central banks face in choosing appropriate policies and implementing them, both in normal times and during financial crises. Throughout the course examples from financial newspapers and other sources are used to familiarise students with how theoretical concepts are used in practice.

At the end of this course students should be able to: (a) understand how interest rates behave in the bonds and money markets; (b) demonstrate their understanding of the term structure of interest rates; (c) understand the theories of the demand for money and their implications; (d) understand how the supply of money is created within the banking system; (e) understand how central banks conduct monetary policy; (f) demonstrate their knowledge on the various tools, targets and goals employed in monetary policy and understand their limitations.

## ECON31002 Managerial Economics II

The aim of this 20 credit course unit is to apply economic and game theory concepts and analytical tools to the strategic management decisions of private firms in a relevant business context.

At the end of this course students should be able to: (i) understand the role of strategic variables such as prices, quantities and advertising outlays as part of firms’ profit maximising decisions; (ii) use analytical tools and game-theoretic solution concepts to recommend an optimal decision to a firm and predict the outcome of its interaction with the competitors; (iii) understand how mergers, collusion, entry deterrence and product differentiation can be used by one or more market participants to affect the outcome of a strategic interaction.

## ECON30511 Topics in Economic History

This 20 credit unit aims to:

* Provide an intermediate-level exposure to modern research in economic history, with a focus on comparative and quantitative aspects.
* Enhance student’s understanding of how economics can be applied to explain or help to understand past events, many of which still affect us today.

We will cover the economic (and when relevant, political) development of different societies in the past, with a focus on Europe but a comparative (and quantitative) dimension also present whenever possible.

Students will apply economic analysis to understand the past. But they will also realise how the past can itself be informative about economics as a discipline. By studying the economic aspects of past in a rigorous manner, students will develop a deeper understanding of not just history, but also the present. It will become clear to them which features of the modern world are recent, and which have been always with us. These skills will prepare them for a range of careers requiring knowledge of economic analysis and historical change, such as business administration or policy advising.

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Students will develop presentation and interpersonal skills through participation in tutorial sessions.

## ECON32221 Topics in Economic Growth

This is a 20 credit unit.

The course aims to:

* Provide an overview of the process of development in the long run
* Discuss the role of society in an economy’s growth process
* Provide an overview of the most important theories of economic growth, their empirical evaluation, and their implications

By the end of this unit you will be able to understand the theory and empirics of economic growth and development, in particular you will be able to identify the key determinants of growth and development.

In the process you will learn to critically evaluate applied work and policies as well as understand the limitations of the economic growth and development literature.

You will be assessed through substantial pieces of coursework and a final exam.

## ECON32242 Topics in Labour Economics

This is a 20 credit unit.

The course aims to:

* Introduce students to imperfect labour markets and policies aimed at addressing the respective imperfections
* Understand and apply key econometric and statistical methods to empirically study (imperfect) labour markets and policies
* Develop critical analysis skills to evaluate (labour market) policies and economic studies
* Develop the employability skill of describing and discussing labour market policies to a broader audience

After completing this unit you should be able to understand how economic research can inform the discussion on labour market policies. You will also gain an understanding how empirical methods are used, to evaluate current policies and research. You will also have identified and read current empirical research in Labour Economics as well as practised communicating it to a non-economist audience.

You will also learn to critically evaluate applied work and policies in the fields of Labour Economics as well as understand advantages and limitations of different empirical methodologies.

Your assessment consists of in-term coursework as well as a final exam.

# Econometrics Units

## ECON31031 Advanced Econometrics

This unit will provide students with an advanced understanding of the econometric methods required for empirical work in economics. Students will also learn the theoretical underpinnings required to understand the theoretical and empirical properties of these methods. The methods covered in this unit form the basis for the advanced study of econometrics in more specialist areas.

The course aims to equip students with a number of core competencies including: (i) an awareness of the important differences in econometric approaches for different data types. (ii) further experience in the analysis and use of data and the R software packages as tools of quantitative and statistical analysis.

## ECON30342 Microeconometrics

# The aim of this course to further develop students’ knowledge of modern microeconometric techniques, and so develop the tools required to analyse datasets covering relating to microeconomic units (individuals, households or firms) observed at a single point in time or over time multiple time periods. It focuses on causes of bias/inconsistency, and therefore non-causality, namely endogeneity. These causes are omitted variables, measurement error, simultaneity and self-selection.

# The course will be of interest to those studying microeconomics or related areas (e.g. labour economics, public economics, and development economics). The course will be useful to students who wish to pursue more advanced applied economics courses later in their career.

# After completing this unit students will: (i) demonstrate a clear understanding of how the regression model is used when analysing cross-section data; (ii) know how to use, and interpret the output from the econometric package STATA; (iii) understand what is meant by a causal effect; (iv) appreciate the various difficulties in estimating causal effects, and understand the way in which econometric methods, in combination with economic models, can address these difficulties when using cross-sectional and panel data.

# Mathematical Units

## ECON30290 Mathematical Economics II

The main theme of this course is game theory. Nowadays, game theory became the most important modelling tool in economic analysis, and this subject plays a key role in any modern economics curriculum. The objective of this course is to introduce students into this important field of mathematical economics.

We present a necessary minimum---a "critical mass"---of game-theoretic models and concepts that could be included into a 3rd year economics course. The main emphasis is on those aspects of game theory that have direct links to economic modelling. Although we have to introduce general game-theoretic notions and frameworks, we try to set reasonable limits on pursuing generalities. We attempt to explain the key ideas within the most simple settings and present every topic in the most simple way, retaining at the same time necessary key details.

Most of the material of the course deals with the classical topics in non-cooperative games and their economic applications, e.g., industrial organization and various aspects of competitive market behaviour. Among other themes, brief introductions to the basic models of evolutionary game theory and cooperative games are given. Less traditional topics are related to the analysis of determinacy, unbeatable/winning strategies and their applications. The course contains many examples and problems, most of which are presented in example classes, take-home tests and tutorials.

The whole 2nd semester part of the course is concerned with specialized game-theoretic models related to auctions and mechanism design, which have remarkable applications in economics.

This course uses only elementary mathematical techniques suitable for undergraduate economics students. However, it is of a genuinely mathematical nature: it involves rigorous reasoning -- theorems, assumptions, proofs, etc. It is addressed to students inclined to mathematics, who wish to enjoy the depth and elegance of the mathematical approach to economic modelling. This character of the course requires students’ intensive work and active learning.

In view of the specific character of this course, lecture podcasts are typically not available for students, and attendance at lectures is therefore particularly important. However, students registered with the DAS Service may, via their Support Plan, request that podcasts be made available to them.

## ECON30382 Mathematical Finance

Mathematical Finance is an area at the interface of Mathematical Economics and Finance concerned with the mathematical modelling of financial markets. A remarkable feature of Mathematical Finance is that its theoretical highlights (such as the Black-Scholes formula) turned out to be extremely important in practice. They have created new markets---primarily markets for derivative securities---based on concepts and theory developed by academics. Nowadays, the turnovers of these markets are measured in billions. This is perhaps the only example in the history of Economics when principles that have led to the emergence of a new economic reality were discovered by mathematicians “on the tip of the pen”.

Standard courses on Mathematical Finance rely upon advanced mathematical techniques, first of all, stochastic calculus. This course is one of very few exceptions. It introduces students to the whole wealth of ideas of Mathematical Finance using only elementary mathematics understandable for 3rd year economics students. The course served as one of the main sources for the textbook by I.V. Evstigneev, T. Hens and K.R. Schenk-Hoppé “Mathematical Financial Economics: A Basic Introduction” (Springer, 2015), which is suggested as the main reading for students.

The syllabus covers classical topics, such as mean-variance portfolio analysis and no-arbitrage theory of derivative securities pricing. A less standard but very important topic, which is typically not covered in introductory courses on Mathematical Finance, is capital growth theory (Kelly, Cover and others). Absolutely new material, reflecting research achievements of recent years, is an introduction to new dynamic equilibrium models of financial markets combining behavioural and evolutionary principles.

Although this course assumes the knowledge of only elementary mathematical techniques suitable for undergraduate economics students, it involves rigorous reasoning---theorems, assumptions, proofs, etc., and is addressed to students inclined to mathematics. In view of the specific character of the course, lecture podcasts are typically not available for students, and attendance at lectures is therefore particularly important. However, students registered with the DAS Service may, via their Support Plan, request that podcasts be made available to them.

## ECON30432 Financial Economics

The overarching aim of the course is to enable students to understand the interface between economics and finance. To this end the course aims:

* To familiarize students with the role of uncertainty and risk in economics and finance.
* To enable students to understand the economic role of (different types of) assets.
* To introduce students to the fundamental concepts of asset markets (short selling, arbitrage, equilibrium, optimality, completeness of asset markets).
* To familiarize students with the economic fundamentals of formal theories of asset pricing, their implications and limitations.

Emphasis throughout will be on the formal theory of asset markets. There is no applied material involved.

On completion of this unit successful students will be able to:

* Have clear understanding of the economic principles underlying finance.
* Demonstrate an understanding of the role of asset markets as means of risk diversification.
* Demonstrate an understanding of the foundations and limitations of asset pricing techniques.
* Solve numerically typical problems related to asset pricing and risk management.
* Perform rigorous analysis of asset markets and portfolio decisions

# Dissertation Units

Writing a dissertation in economics is a very rewarding experience and an essential experience if you are considering continuing on a research degree. Writing a dissertation will also prepare you for any dissertation you may have to write as part of a MSc in Economcis.

If you are a PPE student you will have to write a dissertation and if you elect to write it in economics then you will chose ECON30100. If you are a Development Studies specialist on the BA(ECON) then you can elect to write a dissertation in ECON30910. Those of you who are economics specialist, either on the BA(ECON) or on the BSc Economics can chose to write a dissertation in applied economics. You will have to have a minimum of 65 on ECON20110 Econometrics to ensure that you have the econometric skills required to successfully complete an empirical dissertation.

## ECON30910 Development Studies Dissertation

A dissertation provides students with an organizing focus for their final year. Defining, researching and writing a dissertation can be one of the most satisfying and interesting experiences of an undergraduate student. Producing a dissertation should help students learn how to define a researchable problem, to decide upon appropriate sources, and to develop a sustained argument. In addition, dissertations reinforce and extend analytic skills. Defining, researching and writing a dissertation will help students develop valuable skills such as time management, initiative in deciding upon and locating relevant primary and secondary sources, problem-solving, developing a capacity for independent work, communicating effectively in writing, and working with some primary sources.

A student who writes a development studies dissertation will be able to: (i) develop deep knowledge about their chosen topic; (ii) develop intellectual independence; (iii) learn to define a researchable problem; (iv) learn to decide upon appropriate secondary and primary sources; (v) deploy the scholarly apparatus of bibliography and footnotes effectively; (vi) learn to develop a sustained argument; (vii) develop analytic skills; (viii) learn to meet deadlines; (ix) learn to communicate effectively in writing; (x) learn to deploy information from secondary sources as well as some primary sources.

## ECON30100 PPE Dissertations

The unit aims to:

* Enable students to identify a researchable issue or topic of their interest in the field of economics.
* Allow students to conduct independent research engaging with primary and/or secondary literature sources.
* Write a detailed thesis that develops an in-depth discussion and analysis, and that provides insight and furthers understanding of the chosen issue or topic.

## ECON32211 Applied Economics Dissertation

This module has students bring together the various parts of Economics, Statistics and Econometrics they have learned at Manchester and apply it to a single piece of original research. ECON32211 is the first half of the Applied Economics Dissertation. The aim of this module is to introduce students to applied economic research. As a result they will have a fuller, more holistic understanding for the material covered throughout their degree and be able to synthesize various concepts and methods learned into a single piece of analysis.

By the end of this module students will:

* be able to critically evaluate existing research and evidence
* be able to formulate and develop a research question
* know how to write a research proposal
* know how to review and summarize existing research
* gain experience with the statistical software package Stata or R
* be prepared to continue their research in ECON32212

## ECON32212 Applied Economics Dissertation

This module has students bring together the various parts of Economics, Statistics and Econometrics they have learned at Manchester and apply it to a single piece of original research. ECON32212 is the second half of the Applied Economics Dissertation (following the pre-requisite ECON32211). The aim of this module is to see students carry out their applied economic research which was developed and proposed in ECON32211. As a result they will have a fuller, more holistic understanding for the material covered throughout their degree and be able to synthesize various concepts and methods learned into a single piece of original research.

By the end of this module students will:

* be able to carry out applied economic research including preparing and analyzing data, interpreting results statistically and economically, writing up and presenting those results
* be able to review, critically evaluate and summarize existing research and evidence
* have developed a degree of expertise with the statistical software package Stata or R