ECON0106: **Microeconomics**

Choice and Game Theory

University College London

2022-23. Term 1

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Meeting Times and Location: TBA

Teaching Assistant: TBA

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Office Hours: TBA

Recitation: TBA

Description: ECON0106 is the core microeconomics course in the doctoral sequence in economics. Term 1 provides an introduction to the analysis of behavior, both in individual choice contexts, as well as in settings of strategic interaction.

In the first half of the term, we will lay out the foundations for the analysis of choice and examine the behavioral implications underlying specific preference representations, which we will then connect with the study of consumer theory. We then turn to choice under risk and under uncertainty. During the second half of the term we will focus on modeling of behavior of interacting agents.

Prerequisites: This is a graduate economics class intended for the first-year students of the doctoral program in Economics. This course pressuposes prior exposure to analysis in metric spaces and linear algebra (e.g. you should be familiar with the mathematical appendix of MWG – see reference below). A collection of self-contained lecture notes can be found here `https://cesarbarilla.com/Columbia-MA-Math-Camp-2021/`

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[*]How to pronounce my first name: Doo art.

`#course-outline-and-lecture-notes`. You can also find a collection of short but in-depth lectures on topics relevant for this and other courses here: `https://www.youtube.com/playlist?list=PL0E5qztLTUQ0tU0QRh14lsYaMvnmu2VvN`.

Course Materials: The course will be based on lecture notes, which I will make available online before or shortly after the corresponding lecture.

A textbook that will be useful for the entire term (and beyond) is the following:

- (MWG) Mas-Colell, Andreu; Whinston, Michael D.; and Green, Jerry R. (1995). **Microeconomic Theory**.

For the first half of the term, covering choice theory, I will supply lecture notes for each topic. Useful textbooks are

- Kreps, David (2012). **Microeconomic Foundations I**.

- Kreps, David (1990). **A Course in Microeconomic Theory**.

- Rubinstein, Ariel (2005). **Lecture Notes in Microeconomic Theory**.

For the second half of the term, I will rely almost entirely on these excellent lecture notes

- Kartik, Navin (2020). **Lecture Notes for 1st Year Ph.D. Game Theory**

which I will make available online (with Navin's permission). I will provide lecture notes for specific topics not covered there. Other materials you may want to consult (or at least be aware of) are

- Fudenberg, Drew; and Tirole, Jean (1991). **Game Theory**.

- Osborne, Martin; and Rubinstein, Ariel (1994). **A Course in Game Theory**.

- Maschler, Michael; Solan, Eilon; and Zamir, Shmuel (2013). **Game Theory**.

Grading: Your grade for this term will be given by the weighted average of three components: problem sets (30 pts), a take-home exam (45 pts), and a written assignment (25 pts).

Problem Sets: There will be 10 problem sets for a total of 30 points (3 pts each), and with about 3 questions. They will be posted on [TBA] and are due the following [TBA] at the beginning of the class (TBA). The goal is that you have them back at most 2 weeks after handing them in. The problem sets will be marked on a check plus (100%) / check (75%) / check minus (50%) / zero (0%).

My hope is that you get three things out of the problem sets:

(i) You keep up with the material and get to understand the topics better.

(ii) You get to know your classmates and share the joys and pains of grad school together. Note that they are also the people you are most likely to co-author with.

(iii) Learn LATEX.

You are *encouraged* to work with your classmates in solving them, but you must type up and turn in your own answers. All work is to be typed in LATEX individually, and you will need to send a .pdf file.

Take-Home Exam: The exam will be uploaded on Moodle on TBA. You will have until the TBA to submit it, but you shouldn't spend more than an afternoon. This is an individual examination. However, as this is a take-home exam, you are encouraged to work with your classmates. You **cannot** share .tex files nor portions of code that relate to any answers: you must type up and turn-in your own answers. All work is to be typed in LATEX and you will need to submit both a .pdf file and the .tex files along all other raw files needed to compile the .pdf, if any (e.g. .bib files, images, preambles, etc).

You are not allowed to collaborate with anyone outside this class or posting questions regarding class material in any forum; please respect it. If you use any source, please do make sure you cite it correctly. You will need to provide complete answers.

Written Assignment: You can choose to write a research proposal. This is an individual assignment and is due on TBA. The research proposal should have *up to* 8 pages.

The assignment is mostly open-ended: its purpose is to get you started in thinking about how to use what you learn for your own research. You should find a topic related to class material that inspires you.

The research proposal should be on choice or game theory or have a strong and original theoretical component. You will have discretion in the choice of the topic for the proposal, but its connection/importance/contribution to choice and/or game theory must be obvious. Empirical research proposals will be accepted if (i) a central component is their use of recent theoretical advances related to class material (e.g. for identification strategy or structural estimation); or (ii) if the focus of the paper is to test theoretical models relate to class material. Experimental research proposals related to class material are accepted.

The research proposal should clearly identify its object – what is the question/gap project is addressing – and provide a discussion of most related existing literature (contributions and shortcomings). If theoretical, it can include a sketch of the model, conjectures, specific examples. If empirical, it should highlight its connection to existing advances in economic theory. If experimental, a sketch of an experimental design should be provided.

Regrading: Students have at most seven days after the problem set or exam has been graded and handed back to introduce a complaint regarding a grade. Requests for regrading must be sent to me via email and include (i) a copy of the entire assignment, (ii) your answers, and (iii) a .pdf document (typed up) where you explain why you are asking for the assignment to be regraded. If I find the request to be well-motivated, the entire assignment will be regraded, which may result in an overall higher or lower grade.

Class Policies:

- Ask questions, google, work together with to your colleagues, browse wikipedia and stack exchange, come to office hours, read other books/papers.

- Come to class prepared (and willing) to participate.

- Show your work (derivations) and cite your sources. Do not plagiarize; do not cheat.

- Using mobile phones in the classroom is not allowed.

- You can (and I would encourage you to) use a tablet to take notes.

- While I will allow it, please avoid using a laptop to take notes during the class as it is very distracting for your colleagues.

- Respect your classmates and instructor by limiting yourself to class-related activities.

- Try to be on time.

Why Economic Theory? Economic theory provides you with tools that enable you to develop models. We need models to

- Explain puzzling phenomena: what is the mechanism driving a particular regularity?

- Make predictions: if we observe a change in the environment, how will agents react?

- Develop counterfactual analysis: what would the effect of a given policy be?

When developing new models, these ocasionally led to discovering new regularities (that are then tested). Which leads to another purpose of theory: determining the whether a model is a good approximation of reality, that is, whether is captures the relevant features of the environment they are meant to describe. Namely,

- Identifying models: e.g. can we recover the model from observable data?

- Derive testable implications: e.g. is the model falsified by existing data?

This is then used in empirical research to obtain identification restrictions that you can use in empirical analysis, as well as with a structure that you can estimate from the data to do counterfactuals.

A good command of theory is important regardless of your field of specialization. The first year in the doctoral programme is likely the time where you will have the last broad exposure before becoming an expert in a particular topic.[†] You should take this opportunity to learn as much and as best as you can.

[†]I would strongly suggest taking other economic theory courses and keeping up-to-date with the frontier in the field: there is abundant evidence on the sizeable returns to taking a novel theoretical approach/model/concept/tool to a particular setting or to the data (in IO, macro, health, labor, education, political economy, trade, etc).

Course Outline:

1. **Choice, Preferences, Utility**: Choice to Preferences, α, β, WARP, Choice/Preferences to Utility

2. **Structural Properties of Preferences and Utility Representations**: Continuity and Debreu's Theorem, Monotonicity, Convexity, Separability, Homotheticity, Quasi-linearity

3. **Optimal Choice and Consumer Theory**: Utility Maximization Problem, Correspondences, Expenditure Minimization Problem, Afriat's Theorem

4. **Monotone Comparative Statics of Individual Choices**: Lattices and Strong Set Order, (Quasi)supermodularity, Strong Monotone Comparative Statics

5. **Expected Utility**: von-Neumann–Morgenstern Representation Theorem

6. **Risk Attitudes**: Risk Aversion, Arrow-Pratt Measure, CARA, DARA, Examples

7. **Stochastic Orders**: FOSD, Likelihood Ratio Order, SOSD, Mean-preserving spreads

8. **Uncertainty**: Subjective Expected Utility, Bayesian Updating, Uncertainty Aversion

9. **Stochastic Choice**: Random Utility and Discrete Choice, Luce's Model

10. **Dominance and Rationalizability**: Primitives of Normal-Form games, Strict and Weak dominance, Iterated Elimination of Dominated Strategies, Rationalizability, Examples and Applications, Level-k

11. **Nash Equilibrium**: Definition, Existence, Interpretation, Examples, Robustness, Correlated Equilibrium

12. **Games of Incomplete Information**: Bayesian-Nash Equilibrium, Envelope Theorem(s), Auctions

13. **Monotone Comparative Statics in Games**: Tarski Fixed-Point Theorem, Weak Set Order, LCKK Fixed-Point Theorem, Monotone Comparative Statics on Fixed Points, Applications to Games with Strategic Complementarities

14. **Extensive-Form Games and Nash Equilibrium**: Primitives of normal- and extensive-form games, Kuhn's Theorem, Backward Induction, Subgame Perfection, Applications

15. **Refinements of Nash Equilibrium in Extensive-Form Games**: (Weak) Perfect Bayesian Equilibrium, Sequential Equilibrium, Examples

16. **Repeated Games**: Finitely Repeated Games, One-Shot Deviation Principle, Folk Theorem(s), Connection to Dynamic Choice and Dynamic Programming, Examples

The course outline is provisional and will depend on how quickly we cover the topics listed; I may skim or skip some of the topics.

Syllabus/Course Outline ECON0118: Term 1 Analysis and Term 2 Probability

Professor Martin Cripps
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Texts

There are many books that cover the material of term 1; some are expensive. I have chosen *Real Analysis with Economic Applications* by E.A. Ok as a text for term 1, because it is kind of the standard text. You can download some of the chapters from Efe's website https://sites.google.com/a/nyu.edu/efeok/home/ There is a great deal in this book that we won't cover. (Some of the other books I mention below also have online versions.) A very good place to begin are the mathematical parts (Chapters 3,7,17) of *Recursive Methods in Economic Dynamics* by N. Stokey & R. Lucas. Another popular book with Economists is *Infinite Dimensional Analysis: A Hitchhiker's Guide* by C.D. Aliprantis & K.C. Border, this is too advanced for this course but is clear and comprehensive. A book that seems to cover much the same material is *An Introduction to Mathematical Analysis for Economic Theory and Econometrics* by D. Corbae & M. Stinchcombe. My favourite analysis books are *Real Analysis* by J.N McDonald & N.A. Weiss and *Real Analysis* by H.L. Royden. Both are crystal clear and try to make things simple – which I think is a very good thing. They obviously have no Economics applications. I have given references to Ok, Royden, and McDonald & Weiss below.

One text for term 2 is downloadable: *Measure and Probability Theory with Economic Applications* by E.A Ok. In the references I put a * to distinguish this text from the other by Ok. My favourite probability book is *Probability with Martingales* by David Williams, again because it tries to make things simple. I give references to this also. It can be obtained quite cheaply so I think this is a good substitute for Ok and I will stick to this book very closely in term 2.

Course Structure

The course will be delivered with the traditional lectures and problem sets that are done in the tutorials. There will be 2 take home exams at the end of each term

Course Outline

The material I would like to cover is listed below. As this is the first iteration of this course I am not sure how much of this we will do. I aim to do topics 1-5 in the first term and topics 6-10 in the second.

1. **Elementary Set Theory: (References: OK A1, M&W Chapter 1, Royden Chapter 1)**
   - *Definition of a set and examples: C,R,Q,Z,N*, intervals in *R*.
   - *Set Operations:* Complement, intersection, union, differences, de Morgan's Laws, set limsup & liminf, Cartesian products.
   - *Functions*: Definitions, inverses, bijective & surjective, sequences as functions, the Axiom of Choice, partial orderings and Zorn's Lemma.
   - *Countability:* Equivalence of sets, countability of the rationals, uncountability of the reals.
   - *Families/Classes of Sets*: Definitions of algebras, sigma algebras, topologies, and the Borel sets.

2. **Real Numbers, Sequences, and Functions: (References: Ok (A2-A4) M&W (Chapters 2&6) Royden (Chapter 2)**
   - *Reals:* The field axioms, the completeness axiom, supremum and infimum, density of the rationals & the irrationals.
   - *Sequences, Subsequences & Series:* Monotonicity, definition of convergence, Bolzano-Weierstrass, cluster points, limsup & liminf, Cauchy sequences, series convergence tests.
   - *Open and Closed Sets:* Definition of open and closed sets in *R* and relationship to sequences.
   - *Functions and Continuity:* Two definitions of continuity, Semi-continuity, Uniform continuity, Differentiation (Dini-derivatives & Lebesgue's Theorem on differentiability of monotone functions), intermediate value theorem, mean-value theorem.
   - *Sequences of functions*: Monotone sequences, pointwise convergence, and uniform convergence.
   - *Riemann Integrals*: Definition, properties, definition of sets of zero measure, characterization of Riemann-integrable functions.

3. **Metric Spaces 1: Ok (C1-7,D6), M&W (Chapter 7), R (Chapter 7)**
   - *A little topology:* Open and closed sets, bases, homeomorphic spaces.
   - *Metrics and Norms*: Definitions of both types of space; sequences, open & closed sets, continuity again; metric spaces as topological spaces.
   - *Connectedness & separability:* definitions, Hausdorff spaces, Tietze's Extension Th, Intermediate Value Theorem, open coverings?
   - *Completeness*: definitions, Cauchy sequences, Baire category.
   - *Compactness*: definition, Heine-Borel and its generalizations, totally boundedness.
   - *Weak topologies and non-metrizable* spaces (if there is time).

4. **Metric Spaces 2: Ok (D&E), M&W (Chapter 8), R (Chapter 9)**
   - *Continuity & Weierstrass*: definitions of continuity & semicontinuity again.
   - *Function Spaces*: Topology of uniform convergence.
   - *Contraction Mapping and Banach Fixed Point Theorem*:
   - *Compactness of Function spaces*: Topology of uniform convergence.
   - *Product Spaces:* Metrics for finite and countably infinite products.
   - *The Maximum Theorem:*
   - *Fixed Point Theorems*

5. **Normed Linear Spaces: Ok (F,G,J), M&W (Chapter 10), Royden (Chapter 10)**
   - Introductory concepts: Linear/vector space, linear operators & dual spaces.
   - Banach Spaces & Hilbert Spaces, L^p spaces.
   - Basis and Dimension,
   - Convex functions: Hahn Banach theorem & separating hyperplanes

6. **Probability and Measure: Ok* (Chapter B), M&W (Chapters 4&5), Williams (Chapters 1&2)**
   - Measurable Spaces: sigma algebras,
   - Borel sigma algebras,
   - regular probability measures,
   - examples,

- Caratheodory's Extension Theorem,
- Lebesgue-Stieltjes probabilities,
- Lebesgue measure,
- First Borel-Cantelli.

7. **Random Variables: Ok* (Chapter C), Williams (Chapter 3)**
   - Measurability,
   - Monotone Class Theorem,
   - Sequences of Random Variables,
   - Egorov's Theorem,
   - Lusin's Theorem,
   - Distribution functions.

8. **Independence: Ok* (Chapter H&I), Williams (Chapter 4)**
   - Second Borel-Cantelli,
   - Stochastic Processes
   - Markov Chains,
   - Kolmogorov's 0-1 Law.

9. **Integration and Expectation (Ok* Chapter D&E), Williams (Chapter 5&6)**
   - Definitions
   - Integrability & Fatou's Lemma,
   - Monotone & Dominated Convergence,
   - Markov, Jensen, Cauchy-Schwartz and Holder's inequalities.

10. **Conditional Expectation (Ok Chapter K), Williams (Chapter 9)**
    - Definition, Existence,
    - Regular conditional probabilities.

ECON0108: Topics covered in lectures 1-5, 22-23

In this 5-lecture sequence, econometric models are motivated as sets of restrictions defining admissible data generating processes. We see data and would like to know: which particular process delivered that data; with large amounts of data could all but one admissible process be ruled out as the data generator; could it be that a model is misspecified in the sense that no process it admits can generate the data we see? We set up a framework in which such questions can be answered.

We study: econometric model construction, the identifying power of models, analogue estimation built on identifying correspondences, strongly and weakly restrictive models built on parametric, semi- and non-parametric restrictions, overidentification and the falsifiability of restrictions, and partial identification. The focus is almost entirely on structural econometrics.

Economic understanding, argument and theory deliver some of the restrictions employed in structural econometric models. Other restrictions have a less tangible basis. Less restrictive models are more credible, so we study which restrictions are essential if information about interesting economic magnitudes is to be got from economic data. Central in this endeavour is the concept of the identifying power of an econometric model.

In these five lectures we make a careful study of **identification** first considering the concepts involved and then methods for determining whether a model identifies a particular structural feature. Since parametric restrictions are rarely credible, we study the identifying power of semi- and non-parametric models, first considering models with additive unobservable variables and then non-additive models.

Weakly restrictive models may admit the possibility that more than one structure generates the probability distribution of the random variables whose realizations we see. In this case there may be partial identification of structural features and functionals of those features. We study methods for characterizing identified sets of economic magnitudes.

Identifying correspondences link features of models to features of the probability distributions that structures admitted by models generate. Replacing features of distributions by estimates in these identifying correspondences leads to **analogue estimators** of structural features. We introduce and motivate OLS, GLS, IV and other estimators in this way. In doing so we provide a review of basic econometric estimators. When there is partial identification, it is necessary to consider estimators of and inference on identified sets.

The way in which sources of stochastic variation feature in models and the properties of stochastic variation are important considerations. Human tastes and experience are diverse so it is interesting to consider how multidimensional latent variables can be included in econometric models. This requires consideration of nonlinear models. We consider the nature of stochastic variation in econometric models.

Economic processes deliver many endogenous outcomes and there is interest in understanding the structural equations, correspondences, and inequalities whose simultaneous satisfaction produces values of those outcomes. Econometric models allowing endogenous explanatory variables are a central topic in the course and we study a variety of identifying models.

We show how in models involving a scalar non-additive latent variable, **quantile regression functions** can carry information about structural features.

A leading case in which non-additive error models naturally arise is when **discrete responses** are observed. We study parametric and semiparametric models for discrete outcomes and

consider their identifying power when there is endogeneity. In these cases, most of the point identifying models used in practice are either complete models or employ conditional independence restrictions under which endogeneity is removed once there is conditioning on certain observed variables. We will consider how these restrictions can be relaxed using partially identifying instrumental variable models.

We study a general class of **incomplete models** in which multiple values of unobservable variables can deliver a particular value of endogenous variables and provide examples of such models in the study of auctions, empirical IO and labour markets. We give a result on the identifying power of these, generally partially identifying, models.

Extensive notes and references will be distributed via the course Moodle page where you can find links to some key articles, exercises, solutions, slides and videos.

The topics we will study, and the planned order of attack are as follows.

Lecture 1. Structural econometrics. The purpose and history of identification analysis. Identification – concepts, definitions. Identification in parametric and semiparametric models. Econometric estimators as analogue estimators, OLS 2SLS, ML, GMM.

Lecture 2. Complete models. Linear simultaneous equations models. Reduced form. The classical analysis of identification, rank and order conditions. Triangular models, linear, nonlinear and nonparametric, additive errors. Control functions.

Lecture 3. Quantiles and quantile regression. Triangular models with nonadditive errors. Conditional independence restrictions. Treatment effect models. Incomplete models. Instrumental variable models with additive unobservables.

Lecture 4. Incomplete models. Instrumental variable (IV) models. IV methods in additive error models, flexible parametric specifications and ill-posedness. Nonparametric IV models with non-additive errors. Application to modelling returns to schooling.

Lecture 5. Generalized IV (GIV) models. GIV models for discrete outcomes. Partial identification. Application to modelling female labour force participation.

Andrew Chesher, September 6, 2022

Tim Christensen

September 8, 2022

ECON0108: Syllabus for Lectures 6-10

Overview:

This half of the semester builds on the first half, with the focus shifting from identification to estimation and inference for structural econometric models.

We start by introducing extremum estimation as a unifying framework for studying common estimation techniques, including maximum likelihood, generalized method of moments (GMM), simulated method of moments, and minimum distance methods. We illustrate the steps involved in moving from an economic model to an econometric model to an extremum estimator with several prominent examples. In doing so, we discuss what it means for a model to be misspecified and the consequences thereof. We also discuss the concept of identification within an extremum estimator framework and consider whether the framework exploits all the identifying power of the model.

We then proceed to study the large-sample properties of extremum estimators, namely consistency and asymptotic normality and related inference methods. Techniques and concepts such as uniform convergence in probability and measures of model complexity are introduced as building blocks.

The concept of efficiency is fundamental in empirical work: are model parameters estimated as precisely as possible given the available data? We discuss notions of efficiency and implementations that yield efficient estimators and efficient inference.

In practice it can be difficult to estimate standard errors and construct confidence intervals using asymptotic theory. We therefore consider alternative resampling-based approaches, in particular the bootstrap. We discuss different methods for bootstrapping independent and dependent data, computation of bootstrap-based confidence intervals and critical values, and the notion of higher-order refinements and when these are delivered by the bootstrap.

We conclude the semester by shifting the focus somewhat and discussing estimation and inference techniques for partially identified models. Here the emphasis is on estimating identified sets of model parameters or counterfactuals and performing inference on sets. We discuss general approaches for extremum estimators, and more specific approaches for models featuring moment inequalities.

Outline:

Lecture 6: Extremum estimators, MLE, GMM, MD, SMM, SMD. Identification within an extremum estimator framework. Misspecification and pseudo-true parameters.

Lecture 7: Consistency of extremum estimators. Uniform laws of large numbers. Bracketing entropy. Consistency for simulation-based estimators.

Lecture 8: Asymptotic normality. Asymptotic efficiency. Efficient two-step estimation. One-step corrections. Wald, LM, and QLR tests. Tests of over-identifying restrictions.

Lecture 9: Bootstrap and related resampling methods. Bootstrap confidence intervals. Bias correction. Refinements.
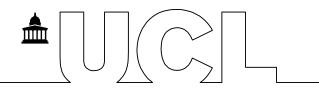
Lecture 10: Estimation and inference methods for partially identified models. Criterion-based approaches. Approaches for models featuring moment inequalities.

Resources:

Comprehensive lecture notes in lieu of a textbook will be provided on the course Moodle page.

Additional references (all entirely optional) are:

- Cameron. A. C. and P. K. Trivedi (2005). Microeconometrics: Methods and Applications, Cambridge.

- Wooldridge, J. (2002). Econometric Analysis of Cross Section and Panel Data, MIT Press.

- Martin, V., S. Hurn and D. Harris (2012). Econometric Modelling with Time Series: Specification, Estimation and Testing, Cambridge.

- Newey W. K. and D. McFadden (1994). Chapter 36: Large sample estimation and hypothesis testing. Volume 4 of Handbook of Econometrics, pp. 2111-2245. Elsevier.

RE: MRes Economics Degree Programme 2022/23

Congratulations on your offer of a place on the MRes Economics degree at UCL's Department of Economics. We're delighted that you'll be joining our community soon!

Ahead of the start of term we wanted to:

- Invite you to attend the MRes Economics Welcome Meeting
- Tell you about Welcome events in the Doctoral School
- Let you know about teaching plans for the start of term
- Give you details of support available to you during your studies

Welcome Meeting

The MRes Economics Welcome meeting will talk you through what to expect during your first term, teaching, funding and answer any questions you might have. It's a great opportunity to connect with your fellow doctoral students and for me to meet as many of you as possible before term starts, so please do come along.

If you can't attend this session in person we will be live-streaming it on Zoom.

- **Date:** 26 September
- **Time:** 10am
- **Location:** TBC.
- **Zoom link:** https://ucl.zoom.us/j/98727018718?pwd=STJkWDFYYnA2LzVBd3NIL3dCY05Jdz09
- Meeting ID: 987 2701 8718
- Passcode: 885470

Welcome Events at the Doctoral School

The Doctoral School will also hold sessions for postgraduate students and staff. There will be two sessions, you only need to attend one:

Wednesday, 28 September 2022, Cruciform Building, Lecture Theatre (view map)
10:00 – 12:00 BST
This event will take place in person.

Monday, 3 October 2022
13:00 – 14:30 BST
This event will take place online.

Register on Eventbrite → https://www.grad.ucl.ac.uk/events/doctoral-school-welcome.html

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Economics Library Induction.

Here you can find information about UCL library resources, services and facilities specifically for Economics students.

[Library Induction: Economics | UCL Department of Economics - UCL – University College London](#)).

Teaching

Teaching will start on the week commencing Monday 3 October. You can look up the MRes Economics online timetable by following these instructions:

1) Visit the [UCL Timetable webpage](#)
2) Click on "Degree Programme"
3) Use the "Enter Degree" bar to search for "MRes Economics" and click "Show Timetable"
4) Click on the "Change Display" tab
5) Select Week 6 from the calendar to display the teaching timetable from the 3 October.

If you are a full-time student you'll be enrolled on the following core courses:

- Macroeconomics (ECON0107)
- Microeconomics (ECON0106)
- Econometrics (ECON0108)
- Real Analysis (ECON0118)

If you are a part-time student you'll take Real Analysis in your first year plus one other core module followed by the other two core modules in your second year. Please get in touch with Daniella Harper at daniella.harper@ucl.ac.uk to confirm your selections.

You can find more detailed information about the MRes Economics curriculum on the [Department webpages.](#)

Support available at UCL

We want you all to get the most out of the MRes year on this programme and to support you from the outset to achieve your full potential.

Below you can find a range of resources and support teams to help you thrive during your time with us:

- [Support and Wellbeing](#)
- [Student Centre](#)
- [Students' Union UCL Advice Service](#)
- [Doctoral School](#)
- [Events and Competitions](#)
- [Disability, Mental Health and Wellbeing Team](#)
- [Application Form for Special Exam Arrangements](#)

Disability, Mental Health and Wellbeing Team

If you are living with a long term or pre-existing health condition we encourage you to register with [UCL's Disability, Mental Health and Wellbeing Team](#) who will be able to support you during your studies and help you to access advice, information, resources and any necessary adjustments, for example [Special Exam Arrangements.](#)

We look forward to welcoming you to the Department on the 26 September!

Yours sincerely,

Fabien Postel-Vinay, Programme Director
Daniella Harper, Senior Administrator Research Programmes