

Curriculum map: Mapping courses to the programme learning outcomes

Below are two programme learning outcomes (PLO) mapping grids for two MSc programmes in the Department of Economics designed by Dimitra Petropoulou, Deputy Head of Education. The PLO maps are followed by a brief commentary where Dimitra explains the rationale for the structure of the programme and complementarities and overlaps of courses.

(Dimitra uses the term PILO - programme-level intended learning outcomes - which can be used interchangeably with PLOs – programme learning outcomes.)

BSc Economics			1	2	3	4	5	6	7	8
PILO			analyse and apply theoretical frameworks of microeconomics, macroeconomics and econometrics, as well as a field area, to address a range of economics questions;	apply reasoning and formal methods to solve advanced problems in economics, econometrics or a related discipline;	critically discuss the research design and findings of economics peer-reviewed research articles, including some at the frontier of the discipline in the students' chosen field;	articulate and critically discuss the relevance of empirical evidence in contemporary and historical economic contexts;	analyse and evaluate measures and policies that might be taken to impact economic outcomes, in a range of different local and global contexts.	adopt a rigorous approach to the empirical evaluation of economic models or testing of hypotheses, using advanced econometrics methods;	conduct independent research including formulating a research question, designing an appropriate research methodology and implementing it in practice;	prepare written work to a strict deadline showcasing effective time management skills.
Course type	Course code	Course title								
Introductory Course	EC400	Introductory Course in Mathematics and Statistics								
Core	EC402	Econometrics	X	X				X		
Core	EC411 or EC487	Microeconomics or Advanced Microeconomics	X	X			X			X (EC411 coursework)
Core	EC413	Macroeconomics	X	X	X	X	X			
Optional	EC421	International Economics	X	X	X	X			X	X
Optional	EC423	Labour Economics	X	X	X	X	X	X	X	X
Optional	EC424	Monetary Economics and Aggregate Fluctuations	X	X	X	X	X		X	X
Optional	EC426	Public Economics	X	X	X	X	X	X	X	X
Optional	EC427	The Economics of Industry	X	X	X	X	X	X	X	X
Optional	EC428	Development and Growth	X	X	X	X	X	X	X	X
Optional	EC453	Political Economy	X	X	X	X	X	X	X	X
Optional	EC465	Economic Growth, Development, and Capitalism in Historical Perspective	X	X	X	X	X	X	X	X
Optional	EC475	Quantitative Economics	X	X	X	X		X	X	X
Optional	EC476	Contracts and Organisations	X	X	X		X		X	X
Optional	GW426	Environmental and Resource Economics	X	X	X	X	X		X	X
Optional	FM429 and FM475	Asset Markets A and Portfolio Management - Dissertation	X	X					X	X
Optional	FM429 and FM471	Asset Markets A and Fixed Income Markets - Dissertation	X	X					X	X
Optional	FM429 and FM472	Corporate Finance A and Applied Corporate Finance - Dissertation	X	X					X	X

BSc Econometrics and Mathematical Economics			1	2	3	4	5	6	7
PILO			analyse and apply theoretical frameworks of microeconomics, macroeconomics and econometrics, and a field area, in order to address important questions in economics;	apply proof-based reasoning and advanced mathematics and statistical methods to solve a range of problems in economics, econometrics or a related discipline;	critically discuss the research design and findings of economics peer-reviewed research articles, including some at the frontier of the discipline;	articulate and critically discuss the relevance of empirical evidence across a range of contexts;	analyse and evaluate measures and policies that might be taken to impact economic outcomes, across a range of contexts;	critically discuss the applicability and relevance of advanced econometrics or other statistical methods to empirical investigation;	identify an appropriate research methodology to address a research question using econometrics, computational or mathematical economics techniques
Course type	Course code	Course title							
Introductory Course	EC451	Introductory Course for MSc EME	X	X					
Core	EC484	Econometrics Analysis	X	X				X	X
Core	EC487	Advanced Microeconomics	X	X			X		
Core	EC417	Advanced Macroeconomics	X	X	X	X	X		
Optional	EC421	International Economics	X	X	X	X	X		X
Optional	EC423	Labour Economics	X	X	X	X	X	X	X
Optional	EC424	Monetary Economics and Aggregate Fluctuations	X	X	X	X	X		X
Optional	EC426	Public Economics	X	X	X	X	X	X	X
Optional	EC427	The Economics of Industry	X	X	X	X	X	X	X
Optional	EC428	Development and Growth	X	X	X	X	X	X	X
Optional	EC453	Political Economy	X	X	X	X	X		X
Optional	EC465	Economic Growth, Development, and Capitalism in Historical Perspective	X	X	X	X	X	X	X
Optional	EC475	Quantitative Economics	X	X	X	X		X	X
Optional	EC476	Contracts and Organisations	X	X	X		X		X
Optional	EC485	Further Topics in Econometrics	X	X	X			X	X
Optional	GW426	Environmental and Resource Economics	X	X	X	X	X		X
Optional	FM421A/W	Applied Corporate Finance	X	X					
Optional	FM429	Asset Markets A	X	X					
Optional	FM431A/W	Corporate Finance A	X	X					
Optional	FM441	Derivatives	X	X					
Optional	FM442	Quantitative Methods for Finance and Risk Analysis	X	X					
Optional	FM445	Portfolio Management	X	X					
Optional	MY459	Quantitative Text Analysis		X					X
Optional	MY461	Social Networks Analysis		X				X	X
Optional	MY474	Applied Machine Learning for Social Science		X				X	X
Optional	ST409	Non-Linear Dynamics and the Analysis of Real Time Series		X				X	X
Optional	ST422	Time Series		X				X	X
Optional	ST443	Machine Learning and Data Mining		X				X	X
Optional	ST444	Computational Data Science		X				X	X
Optional	ST446	Distributed Computing for Big Data		X				X	X
Optional	ST449	Artificial Intelligence		X				X	X
Optional	ST451	Bayesian Machine Learning		X				X	X

It is interesting to observe that four courses - EC423, EC426, EC427, EC428, EC465 – meet all the PILOs in both programmes, and that students who opt for these courses might get a more balanced exposure to the different learning outcomes. This arises from the fact that in these field courses students are exposed to economic theory alongside applied econometrics methods relevant to that research field. Whereas more theory-based economics fields (for example, EC453 and EC476) offer less exposure to empirical applications.

This is an inevitable consequence of the varying emphasis of different sub-fields of the economics discipline, and it is to be expected that students who have an academic interest in specialising in a particular field, will develop more strongly the particular skills used within that field. So, while the programme is designed such that all students meet all the PILOs, the time spent developing different skills will vary depending on the particular field option students select. Moreover, the particular applied skills developed vary across field courses, so even where two courses meet the same PILOs, such as EC421 and GY426, they do so in different way.

Furthermore, the requirement that all MSc Economics students complete an MSc Extended Essay (which carries 50% weight in the assessment of their field course) tries to mitigate the effect of some of these differences across fields, ensuring that all students have engaged sufficiently in research and meet PILO 7 and PILO 8.

While there are overlaps in skill development across the two programmes – both are quantitative and develop analytical skills – there are also key differences. The emphasis of the MSc EME is on formal methods from a theoretical perspective, but not necessarily applying them in the context of a research project. The two master's programme are differentiated by the varying technical level of the core courses, with the MSc EME core courses being more focused towards proof-based reasoning, and also the additional options MSc EME students have to explore a broader range of formal methods through access to additional data science course. This comes at the expense of developing applied research skills for students who choose the most quantitative pathway.

[More information ...](#)