UCL Faculté des sciences économiques, sociales et politiques

ESPO

ECON2135	Econométrie : méthodes et applications

[45h+45h exercises] 12 credits

Teacher(s):   Luc Bauwens, Fatemeh Shadman Valavi
Language: french
Level: 2nd cycle course

Aims

This course is an introduction to econometrics theory and practice. The focus is on an understanding of methods, and on their relevance in the resolution of problems of applied economics. The student must be able to use methods taught in resolving simple problems, and interpret the results of an econometric analysis, while at the same time be aware of the limitations of these methods.

Main themes

An important objective of the course is to learn economic modelling: how to move from an abstract, general relationship between economic variables based on economic theory, to the formulation and estimation of a particular form of this relationship in a given context. This will require students to choose a particular functional form that takes account of theoretical properties and of the properties of data, and establish a correspondence between theoretical variables and empirical data.
The course covers basic econometric tools at an introductory level, and includes examples of applying methods to economic problems.
Students will learn how to use econometric software.

Content and teaching methods

Content
Linear regression and the method of Ordinary Least Squares (OLSs). Properties of OLSs. Restrictions test. Use of mute variables. Prediction.
Heteroskedasticity and auto-correlation. The method of Generalised Least Squares.
Dynamic models, unitary roots and co-integration.
The maximum likelihood method in case of logit and probit models.
Method
The course is organised in such a way as to guide students' personal learning. Students prepare for each course with prior reading guided by questions. Each session aims to discuss the issue, particularly by answering the questions that served as guides, but also any other questions, and, if necessary, by summarising the subject. Some sessions will take place in the IT suite using the same principles.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Courses in Economics, Mathematics, Statistics and Informatics in the preparatory economic Sciences degree course.
Written examination and work completed during the year. Students' participation in discussions also feature in the final assessment.
R L Thomas, 1996, 'Modern Econometrics: an introduction', Addison-Wesley.

Other credits in programs

ECON21	Première licence en sciences économiques	(12 credits)	Mandatory
ECRU3DS	Diplôme d'études spécialisées en économie rurale	(12 credits)	Mandatory
IAG21M	Première année de Maîtrise en sciences de gestion (orientation "méthodes quantitatives de gestion")	(3.5 credits)	Mandatory
MAP22	Deuxième année du programme conduisant au grade d'ingénieur civil en mathématiques appliquées	(9 credits)	
MAP23	Troisième année du programme conduisant au grade d'ingénieur civil en mathématiques appliquées	(9 credits)	
MATH22/E	Deuxième licence en sciences mathématiques (Economie mathématique)	(8.5 credits)	Mandatory
STAT2MS	Master en statistique, orientation générale, à finalité spécialisée	(15 credits)	
STAT3DA/E	diplôme d'études approfondies en statistique (statistique et économétrie)	(12 credits)	