UCLouvain

lecon2131

2026

Advanced Econometrics

5.00 crédits	30.0 h	Q2

Enseignants	Van Bellegem Sébastien ;
Langue d'enseignement	Anglais
Lieu du cours	Louvain-la-Neuve
Préalables	Mathematics and Statistics for Economists
Thèmes abordés	The course must cover the basic most important topics of econometric theory at an advanced level. These themes concern econometric model formulation, estimation and testing. Teaching is at an advanced level. Proofs of important results are covered, though not systematically. Applications are also used so that students learn how to carry applications in their own research. Contents · Linear regression : exact finite sample theory of ordinary and generalized least squares · Large-sample theory: convergence concepts, stochastic processes (stationarity and ergodicitys, IID and white noise, martingales, martingale difference sequences) and limit theorems for IID and MDS). Application to large sample theory of least-squares estimation. · GMM and the method of instrumental variables · The method of maximum likelihood: (estimation and testing) and its application to linear regression and non-linear regression models. · Empirical applications. Use of an econometric and simulation/computational software.
Acquis d'apprentissage	**A la fin de cette unité d'enseignement, l'étudiant est capable de :** 1 The purpose is that students acquire the basic tools of econometric research which are of general use in more specialized fields of research and which are covered in subsequent courses (Microeconometrics and Econometrics of Time-Series). An example of such a tool is the method of estimation by maximum likelihood.
Modes d'évaluation des acquis des étudiants	A written exam and an oral exam..
Méthodes d'enseignement	Lectures
Contenu	1. The reality of data and model in econometrics. Introduction to constructive econometrics. 2. Conditional expectation 3. Principles of scientific induction 4. Modeling conditional expectation 5. Conditional variance analysis in idealized econometrics
Bibliographie	
Autres infos	Support: lecture notes by S. Van Bellegem
Faculté ou entité en charge:	ECON

Programmes / formations proposant cette unité d'enseignement (UE)				
Intitulé du programme	Sigle	Crédits	Prérequis	Acquis d'apprentissage
Master [120] en sciences économiques, orientation économétrie	ETRI2M	5		
Master [120] en sciences économiques, orientation générale	ECON2M	5		