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Enseignants:	Gao Zhengyuan ;
Langue d'enseignement:	Anglais
Lieu du cours	Louvain-la-Neuve
Thèmes abordés :	<p>The course must cover the important and essential themes of the econometrics of time series analysis and their application in some fields of economics, like macroeconomics and finance.</p> <p>The basic concepts of stationarity and ergodicity are taught in the prerequisite course.</p> <p>The main themes for this course are those of linear time series models (autoregressive and moving average models), unit roots and cointegration. Both univariate and multivariate models must be taught.</p> <p>For non linear time series models, a selection of topics has to be done mainly among ARCH models, Markov-switching models, and state-space models.</p> <p>In all topics, the themes of model building, evaluation and prediction are included.</p>
Acquis d'apprentissage	<p>The purpose is to train the students in the tools and models useful for the econometric analysis of economic time-series.</p> <p>Students will learn to understand in depth and apply correctly the techniques. The course prepares to research in the field of time-series analysis and its applications.</p> <p><i>La contribution de cette UE au développement et à la maîtrise des compétences et acquis du (des) programme(s) est accessible à la fin de cette fiche, dans la partie « Programmes/formations proposant cette unité d'enseignement (UE) ».</i></p>
Contenu :	<p>Contents</p> <p>Autoregressive and moving average models (univariate case)</p> <p>Regression analysis for time-series : the stationary case and the non-stationary case (trending regressors, deterministic and stochastic trends).</p> <p>Vector autoregressive and moving average models.</p> <p>Cointegration analysis.</p> <p>Non-linear time-series models (ARCH, Markov-Switching)</p> <p>Macro-econometric and financial applications. Use of econometric software for applications and computations/simulations.</p> <p>Methods</p> <p>Lectures, take-home exercises, readings of exemplary papers, empirical exercises using econometric software</p>
Autres infos :	<p>Advanced Econometrics I</p> <p>Written or oral exam. A part of the final result is reserved for the evaluation of the exercises assigned during the term.</p> <p>A textbook like Hayashi Econometrics or Hamilton's Time Series Analysis</p>
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 statistiques, orientation générale	STAT2M	5	-	
Master [120] en sciences économiques, orientation générale	ECON2M	5	-	
Master [120] en sciences économiques, orientation économétrie	ETRI2M	5	-	
Master [120] en ingénieur de gestion	INGE2M	5	-	