

## Faculty of Economic, Social and Political Sciences



### ECGE1316 Econometrics

[20h+15h exercises] 3 credits

**Teacher(s):** Luc Bauwens, Christian Hafner (supplée Luc Bauwens)  
**Language:** French  
**Level:** First cycle

#### Aims

This course is intended to give students a background in the theory and practice of Econometrics. The emphasis is on understanding the methods and their relevance to the solution of management problems. By the end of the course, students should be able to use these methods for simple question solving and to interpret the results of an econometric analysis while being aware of the limitations of the methods.

#### Main themes

The course covers the basic instruments of econometric analysis at an intermediate (for subjects introduced in previous courses) or introductory level (for new subjects). Examples of how these methods are applied to management problems are given. An important aspect of the course is learning econometric modelling: students are taught how to take a theoretical, abstract and general relation between variables and apply it to the formulation and estimation of a particular concrete form that relation might take in a given context. They will also be introduced to econometric software during the course.

#### Content and teaching methods

Course content: linear regression and the ordinary least squares method (OLS). Properties of OLS. Restriction test. Use of dummy variables. Forecasting. Heteroscedasticity and autocorrelation. The generalised least squares method and its properties. Dynamic models and forecasting. Analysis of discrete and qualitative data (per maximum of probability): discrete choice models (binomial and multinomial logit), count data model (Poisson regression). Introduction to panel data.  
 Method: The course is organised in such a way as to guide students in their learning (including software-based learning). Students prepare each course through preliminary reading, informed by questions. The purpose of the lectures is to discuss what the students have learnt in the reading and address these questions, and also to deal with a range of other questions and summarise the subject matter.

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

Course materials (for information only): J.M. Wooldridge (2002). Introductory Econometrics, Thomson, South Wester  
 Prerequisite : BAC 1 ECGE course in Mathematics and Statistics

#### Other credits in programs

<b>ECAP21</b>	Première licence en sciences de gestion	(3 credits)	Mandatory
<b>ECGE13BA</b>	Troisième année de bachelier en sciences économiques et de gestion	(3 credits)	Mandatory
<b>ECON21</b>	Première licence en sciences économiques	(3 credits)	Mandatory
<b>ECON2M1</b>	Master en sciences économiques, orientation générale	(3 credits)	
<b>FSA13BA</b>	Troisième année de bachelier en sciences de l'ingénieur, orientation ingénieur civil	(3 credits)	
<b>MAP22</b>	Deuxième année du programme conduisant au grade d'ingénieur civil en mathématiques appliquées	(3 credits)	
<b>MAP23</b>	Troisième année du programme conduisant au grade d'ingénieur civil en mathématiques appliquées	(3 credits)	