

In view of the health context linked to the spread of the coronavirus, the methods of organisation and evaluation of the learning units could be adapted in different situations; these possible new methods have been - or will be - communicated by the teachers to the students.

5 credits

20.0 h + 20.0 h

Q1

Teacher(s)	Masquelier Bruno ;Rautu Iulia (compensates Masquelier Bruno) ;
Language :	French
Place of the course	Louvain-la-Neuve
Aims	<i>The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".</i>
Evaluation methods	<p>Due to the COVID-19 crisis, the information in this section is particularly likely to change.</p> <ul style="list-style-type: none"> • A dispensatory test allowing students to evaluate their command of the R software is scheduled during the semester. • Participation in three exercises associated with practical work is marked. • The final evaluation is also based on a written exam taken in the computer room during the exam session.
Teaching methods	<p>Due to the COVID-19 crisis, the information in this section is particularly likely to change.</p> <p>The course is structured around lectures and practical work (see programme distributed in the first session and on Moodle). Participation in courses and partical sessions is essential. It is necessary to read chapters from the curriculum beforehand.</p>
Content	<p>LSPED2047 provides a solid introduction to quantitative methods in the social sciences. At the end of this course, students will be able to</p> <ul style="list-style-type: none"> • to acquire mastery of the tools of bivariate and multivariate quantitative data analysis. • use single and multiple regression methods and some applications of generalized linear models (logistic regression and Poisson regression) • understand and be able to use factorial analysis and classification techniques (also called cluster analysis) • to be autonomous in the use of R, a free software for data analysis. <p>Topics covered:</p> <ul style="list-style-type: none"> • Univariate analysis (reminders): to describe the data. • Chi-square, relative risks, odds ratios: to analyze jointly two qualitative variables. • T-Test, F-test and ANOVA: to test the relationships between a qualitative and a quantitative variable. • Correlations, simple linear regression: to analyze jointly two quantitative variables • Factorial analyses: principal component analysis (PCA) for quantitative variables and Multiple Correspondence Analysis (MCA) for qualitative variables: to construct indicators or identify 'latent' dimensions of all the variables analysed. • Classification methods (Wald's hierarchical classification): to identify clusters of observation units or to develop typologies. • Multiple linear regression and the generalized linear model (logistic regression and Poisson regression): to predict the value of a dependent variable, and identify its determinants.
Inline resources	<p>Logiciel R: https://www.r-project.org/ Inferface Rstudio: https://www.rstudio.com/</p>
Bibliography	<p>G. Masuy-Stroobant and R. Costa, editors. Analyser les données en sciences sociales : De la préparation des données à l'analyse multivariée. P.I.E. Peter Lang, 2013.</p> <p>D.C. Howell, V. Yzerbyt, Y. Bestgen, and M. Rogier. Méthodes statistiques en sciences humaines. Série Internationale. De Boeck Supérieur, 2008.</p>
Faculty or entity in charge	PSAD

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Master [60] in Sociology and Anthropology	SOCA2M1	5		
Master [120] in Sociology	SOC2M	5		
Master [120] in Population and Development Studies	SPED2M	5		
Master [120] in Political Sciences: General	SPOL2M	5		
Master [120] in Education (shift schedule)	FOPA2M	5		
Mineure en statistique et science des données	LOSTA100I	5		
Advanced Master in Quantitative Methods in the Social Sciences	LMQS2MC	5		