bhdpo1231

2024

UCLouvain

Statistics and analysing data

10.00 credits	45.0 h + 15.0 h	Q1

Teacher(s)	Maes Renaud (compensates Marquis Nicolas) ;Marquis Nicolas ;
Language :	French
Place of the course	Bruxelles Saint-Louis
Prerequisites	*The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.*
Learning outcomes	**At the end of this learning unit, the student is able to :** The objective of the course is to enable a multidisciplinary approach to the theoretical, methodological and technical aspects of creation, manipulation and analysis of quantitative data. At the end of the course, the student will be able to : - to design a sample; - to develop the coding and the data organisation in a statistical-processable format; - to imagine the construction of complex indicators by using analytical and programming tools of allocation within the algorithmic, sequential, repetitive, conditional structures; - to make these data representative of the reference population; - to select the individuals useful for the analysis; - to choose a statistical procedure (uni or bi-variate) according to the question and to the available characteristics of the variable; - to present the results in a table and/or a graphic, being aware of the pros and cons of the different types of presentation; - to assess the risks/the possibility to infer the results to the entire population by using the chi-square and Student's indicators.
Evaluation methods	Assessment for the HDPO1231 course is twofold: it consists of group work, which counts for 50% of the final grade, and a written exam, which counts for 50% of the final grade. The assignment instructions will be presented during the first class and made available on Moodle. The overall mark results from a geometric mean of the results of the two parts: $\#((ExamPoints/20)*(WorkPoints/20))$ Please note: it is compulsory to sit both parts. If one of the two parts is not taken, the final mark for the UE is 0 (absence justified) or 0A (absence not justified). The mark for the part passed (examination or assignment) will be retained, unless the student expressly requests otherwise, for the same academic year. All work must be the student's own work. Students are expected to adhere strictly to the rules and good practice regarding citation, referencing and avoidance of (self-)plagiarism. Students are expected to know and understand these rules and practices. Failure to comply with these rules may result in academic and/or disciplinary action for plagiarism and/or irregularity, in accordance with the General Study and Examination Regulations. The use of generative AI is accepted provided that it is occasional and limited. The use of AI must be explicitly indicated and referenced. Any part of the work relying in any way on generative AI must be clearlin practicm.375 (AI) -5.375 q

	The practical work consists of putting into practice the tools seen in the course, through the use of spreadsheets and statistical software.
	It is important to note that this course is not a general statistics course: it approaches the subject solely from the angle of social science research.
	Course outline :
	Chapter 1: Why quantitative research ?
	Chapter 2: The foundations of quantitative research
	Chapter 3: The fundamental tools of the quantitative approach
	Chapter 4: Elements of descriptive statistics
	Chapter 5: Introduction to statistical inference
	Chapter 6: Controlling relationships
	Chapter 7: Elements of multidimensional statistics
Bibliography	Sera communiquée au fil du cours. Les slides, seule ressource recommandée, sont disponibles sur moodle.
Other infos	At the university level, it is up to the students to decide wether they attend to the lessons or not. Teacher and assistants of course recommend a maximal attendance at both lessons and TPs. Except in the event of force majeure, non-attendance and its potential consequence are the student's sole responsibility.
	In the same way, students are free to organize their time during the academic year. Once again, we recommend a continuous assessment of the course comprehension AS WELL AS a continuous commitment in the deliverable.
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Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Political Sciences (shift schedule)	SPDB1BA	10	BHDPO1152	