UCLouvain

lfsm1301

2026

Data analysis methodology

4.00 credits	22.5 h + 22.5 h	Q2

Teacher(s)	Bugli Céline ;
Language :	French
Place of the course	Louvain-la-Neuve
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.*
Main themes	• Interpret qualitative and quantitative data • Presenting data (table, graph, figure, etc.) • Descriptive statistics • Probabilities (including sample - population), inferences and statistical modelling • Difference between causality and correlation • Use of SPSS software • Notions of reliability, validity, repeatability and reproducibility • Thematic qualitative analysis
Learning outcomes	**At the end of this learning unit, the student is able to :** • Describe and justify the relevance of data analysis methods (qualitative or quantitative) used in motor sciences (6.1 kiné) / (2.3. Master EP) • Carry out relevant data analysis (6.1, 6.2 Kiné/2.3 EP) • Analyse and interpret results to the point of arguing critically (2.3, 24 Master EP) • Identify bias in a scientific article using appropriate scales (6.3 Kiné - 2.4 EP) • Apply different statistical tests with relevance (6.2, 6.3 Kiné/2.3. EP)
Evaluation methods	The assessment is carried out using a written exam and a computer-based exam. The written exam will consist of two parts: part A will include multiple-choice questions (with six possible answers and one correct answer), and part B will include open-ended questions. The computer-based exam (part C) outside of the exam session aims to assess specific skills in using SPSS software. The final grade is the weighted average of grades A, B, and C.
Teaching methods	Lectures and supervised exercises.
Content	This course aims to develop students' ability to collect, analyze, and interpret qualitative and quantitative data in motor sciences. It covers interpretation, quantitative and qualitative analysis, and data presentation. The basics of descriptive statistics, probability, statistical inference, and modeling will be taught, with an emphasis on critical thinking, particularly by highlighting the distinction between causality and correlation. Students will learn to present their results in the form of tables, graphs, and figures. The use of SPSS software will be integrated for statistical analysis. Particular attention will be paid to the reliability, validity, repeatability, and reproducibility of analytical methods. Finally, an introduction to qualitative thematic analysis will enrich students' understanding of non-numerical data. The course will alternate between explanations of theoretical concepts, demonstrations of how to use SPSS software, and interpretations of statistical results. Practical sessions will provide a concrete and applied approach. Students will be encouraged to develop their autonomy in the relevant choice of statistical analyses and their practical implementation. *Translated with DeepL.com (free version)*
Inline resources	Various documents (videos, lecture slides, etc.) available via Moodle.
Other infos	This course is strictly reserved for FSM students. It is not open to other UCLouvain students.
Faculty or entity in charge	FSM

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Motor Skills: Physical Education	EDPH2M	4		
Bachelor in Physiotherapy and Rehabilitation	KINE1BA	4	LKNR1201	
Master [120] of Education, Section 4 : Physical Education	EDPH2M4	4		