



3.00 credits

15.0 h + 15.0 h

Q2

Teacher(s)	Bugli Céline ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	<i>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.</i>
Main themes	The course comprises theoretical lectures and exercise sessions: 1. Brief recall on one- and two-dimensional descriptive statistics 2. Inferential statistics: populations and samples, probabilities, variables, theoretical distributions, confidence intervals (means, variance, proportion), hypothesis testing based on sample means (Student t-test, analysis of variance, analysis of covariance, multiple comparisons), proportions (chi square, phi, contingency), correlations/regressions (significance, comparison, linearity), adjustment tests (chi square, KS), non-parametric tests (comparison of independent and dependant groups). 3. Application to capacity tests: classification of tests, quality of tests, validity and reproducibility.
Learning outcomes	<p>At the end of the course the successful student will be able to use the techniques of inferential statistics within the framework of his/her research. The course focuses on the most frequently used statistical methods. The underlying mathematical developments are limited to a strict minimum and replaced by intuitive reasoning and concrete examples, especially via practical exercise sessions.</p> <p>1</p> <p>-----</p> <p><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></p>
Evaluation methods	<p>Due to the COVID-19 crisis, the information in this section is particularly likely to change.</p> <p>The evaluation is carried out by means of a written exam consisting of a part A with MCQ questions (with 6 suggested answers and one expected correct answer) and a part B with open questions. In the final grade, part A is worth 10/20 and part B is worth 10/20.</p>
Teaching methods	<p>Due to the COVID-19 crisis, the information in this section is particularly likely to change.</p> <p>Lectures and supervised exercises. The modalities foreseen will evolve according to the health situation.</p>
Content	This course includes lectures and exercises. It contains a brief overview of the concepts of one- and two-dimensional descriptive statistics as seen in the course of 11 BAC "Comprehension et traitement de données". It focuses mainly on the basic issues of statistical inference: population and sample probabilities, random variables, distribution theory, confidence intervals (mean, proportion), hypothesis tests related to means (student t, analysis of variance), proportions (1 or 2 proportion test, chi-square test), correlation/regression study (regression straight line calculation, slope test), adjustment tests (chi-square, Shapiro-Wilks), some non-parametric tests (comparison of independent and dependent groups), repeated measurement ANOVA.
Inline resources	Site Moodle: https://moodleucl.uclouvain.be/course/view.php?id=9254
Other infos	<p>Pre-requisite: Comprehension et traitement de données (LIEPR1003)</p> <p>Evaluation: Written</p> <p>Support : power point</p> <p>Supervision: Titular professors and teaching assistants</p> <p>Others: Exercise sessions + solutions to problems</p>
Faculty or entity in charge	FSM

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Physiotherapy and Rehabilitation	KINE1BA	3	LIEPR1003	
Master [120] in Motor Skills: Physical Education	EDPH2M	3		
Master [120] in Motor Skills: General	MOTR2M	3		