liepr1026

2017

Statistics

3 credits	15.0 h + 15.0 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	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 independant and dependant groups). 3. Application to capacity tests: classification of tests, quality of tests, validity and reproducibility.
Aims	1 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. - - - - *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".*
Content	This course includes lectures and exercises. It contains a brief summary of the concepts of descriptive statistics and a two-dimensional views in the course of 11 BAC "Comprehension and analysis of data". It focuses mainly on the basic issues of statistical inference: population and sample probabilities, random variables, distribution theory, confidence intervals (mean, variance, proportion), tests of hypotheses related to the mean (Student's t, analysis variance, analysis of covariance, individual comparisons), proportions (chi-square, phi, contingency C), the correlation / regression (meaning, comparison, linearity), testing adjustment (chi-square, KS), some nonparametric tests (comparison of independent groups and dependent).
Other infos	Pre-requisite Evaluation Written or oral examination, continuous evaluation Support Syllabus or reference books Supervision Titular professors Others Exercise sessions + solutions to problems in groups of maximum 30 students
Faculty or entity in charge	FSM

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