lstat2100

2019

Discrete data analysis.

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	30.0 h + 7.5 h	Q2

Teacher(s)	El Ghouch Anouar ;
Language :	French
Place of the course	Louvain-la-Neuve
Main themes	- Multinomial Distribution : marginal and conditional distributions and asymptotic properties - Two ways Contingency Tables : Independance and Homogeneity, measures of association and particular tests (Fisher, Mac Nemar, etc.). - Multiple ways Contingency Tables : Mutual, Partial and Conditional Independencies. - Log-linear Models. - Conditional Models - Generalized Linear Models - Logit and Probit Models - Multinomial Discriminant Analysis - Selection of explanatory variables
Aims	1 The student will be able to use the basic techniques of Discrete Data Analysis and to apply these to real data using statistical softwares - - - - *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".*
Evaluation methods	**Due to the COVID-19 crisis, the information in this section is particularly likely to change.** Each student is provided a data set to be analyzed by the taught techniques. This analysis is the object of a report orally presented by the student to the Professors. During this presentation, the Professors may question the student on the matter of the course.
Content	Content - Multinomial Distribution : marginal and conditional distributions and asymptotic properties - Two ways Contingency Tables : Independance and Homogeneity, measures of association and particular tests (Fisher, Mac Nemar, etc.). - Multiple ways Contingency Tables : Mutual, Partial and Conditional Independencies. - Log-linear Models. - Conditional Models - Generalized Linear Models - Logit and Probit Models - Multinomial Discriminant Analysis - Selection of explanatory variables Methods The course is concentrated on the first ten weeks. The following 4 weeks are devoted to the realization by each student of an empirical study of suitable data.
Other infos	Prerequisites : Elementary courses in Probability and Statistics
Faculty or entity in charge	LSBA

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Master [120] in Mathematical Engineering	MAP2M	5		🔍
Master [120] in Statistic: Biostatistics	BSTA2M	5		🔍
Certificat d'université : Statistique et sciences des données (15/30 crédits)	STAT2FC	5		🔍
Master [120] in Statistic: General	STAT2M	5		🔍
Master [120] in Economics: General	ECON2M	5		🔍
Master [120] in Data Science : Statistic	DATS2M	5		🔍