Multivariate analysis and clustering

ECTS
4 crédits

Composante
IAE Savoie
Mont Blanc

En bref

- **Langues d'enseignement:** Anglais
- **Méthodes d'enseignement:** Hybride
- **Ouvert aux étudiants en échange:** Oui

Présentation

Objectifs

The objective of this course is to provide students with a knowledge of data processing and analysis. Once the data is collected and organized, this course aims to provide the basics of statistical processing. More specifically, it proposes to train students in bivariate and multivariate analysis and classification. Emphasis is placed both on methods for data processing and on applications of models increasingly used in empirical analysis. The methods and models presented are systematically applied on a machine using the data processing software stata or GRETL.

Heures d'enseignement

CM	Cours Magistral	15h
TD	Travaux Dirigés	15h

Pré-requis obligatoires

Introduction to statistics

Plan du cours

1/ Introduction and Basic statistics

2/ Descriptive statistics: Bivariate analysis

3/ Multivariate analysis and methods (principal-components factors, Principal factor, Discriminant analysis, Multidimensional scaling, Multiple correspondence analysis) (6h)

4/ Cluster analysis (hierarchical clustering, kmeans and kmedian nonhierarchical clustering, dendrograms)

5/ Evaluation (3h)

Compétences visées

-To examine data statistically and to be able to choose techniques

- To use summary statistics to describe collections of data

- To identify which technique is the most appropriated according to the variables and data and to apply it

- To classify/identify groups

- To apply techniques on statistical softwares (Stata, GRETL, JASP, etc.)

Bibliographie

Ø Statistics for management and economics, Gerard Keller, 9e edition

Ø A handbook of statistical analysis using Stata, Sophia Rabe-Hesketh and Brian Everitt, 3rd edition, A CRC Press Company

Ø Statistics for management, R.I Levin, M. H. Siddiqui, D. S. Rubin and S. Rastogi, Pearson 8th edition

Ø Statistical methods for the social sciences (PDF available on line), A. Agresti and B. Finley, fourth edition, Pearson

Ø Practical Multivariate Analysis , A. Afifi, S. May, R. A. Donatello, Virginia A. Clark, 5th Edition

Ø Statistics with Stata, L.C. Hamilton, version 12

Ø https://www.stata.com/

Infos pratiques

Contacts

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