Advanced data analysis (ECON753_SOLEM)

ECTS
2 crédits

Composante
Polytech Annecy-Chambéry

En bref

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

Présentation

Description

Semester 7 - Mandatory

Student workload: Lecture (CM): 15 hours. Tutorials (TD): 15 hours

Module examination: 1 report (60%) +1 individual oral presentation (20%) + Practical exercices (20%) - 2 ECTS

Teaching and learning method: Seminar, Video, tutorials, Practices.

Responsible person for the module: Dorothée Charlier

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, GRETL and JASP softwares.

Correspondence between major intended learning outcomes and assessment.

Heures d'enseignement

Advanced data analysis - multivariate analysis and clustering - CM	Cours Magistral	15h
Advanced data analysis - multivariate analysis and clustering - TD	Travaux Dirigés	15h
Advanced data analysis - multivariate analysis and clustering - TP	Travaux Pratiques	

Plan du cours

1/ Introduction and Basic statistics (6h)

2/ Descriptive statistics: Bivariate analysis (9h)

https://www.stata.com/features/basic-statistics/

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

https://www.stata.com/features/multivariate-methods/

4/ Cluster analysis (hierarchical clustering, kmeans and kmedian nonhierarchical clustering, dendrograms) (6h)

https://www.stata.com/features/cluster-analysis/

5/ Evaluation (3h)

Compétences visées

Manage statistical information

To examine computer-based exploratory data analysis

To distinguish the type of test and methods according the nature of variables

To classify/identify groups

Bibliographie

* Statistics for management and economics, Gerard Keller, 9e edition
* A handbook of statistical analysis using Stata, Sophia Rabe-Hesketh and Brian Everitt, 3rd edition, A CRC Press Company
* Statistics for management, R.I Levin, M. H. Siddiqui, D. S. Rubin and S. Rastogi, Pearson 8th edition

* Statistical methods for the social sciences (PDF available on line), A. Agresti and B. Finley, fourth edition, Pearson
* Practical Multivariate Analysis#*A. Afifi, S. May, R. A. Donatello, Virginia A. Clark,* 5th Edition
* Statistics with Stata, L.C. Hamilton, version 12
* https://www.stata.com/

Infos pratiques

Lieux

Le Bourget-du-Lac (73)

Campus

Le Bourget-du-Lac / campus Savoie Technolac