

Applied Multivariate Techniques

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PhD Course, XXXIII cycle

Course Description

This course provides a quick overview of the most common multivariate techniques. Topics include: dimension reduction, classification, clustering. The course will also try to touch some modern data analysis techniques, through the development of small projects.

Objectives

The objectives of this course are:

- to learn some of the traditional tools for analysing multidimensional data;
- to get hands-on experience in using some of these techniques, through the development of a small project.

Schedule

14	December	10.30-12.00	Multidimensional data
14	December	15.00-16.30	Lab session
21	December	10.30-12.00	Dimension Reduction
22	December	10.30-12.00	Lab session
11	January	10.30-12.00	Cluster Analysis
11	January	15.00-16.30	Lab session
18	January	10.30-12.00	Discriminant Analysis
18	January	15.00-16.30	Trees
24	January	10.30-12.00	Lab session

Recommended texts

- Härdle, W. Simar, L. (2007). *Applied Multivariate Statistical Analysis*, Springer.
- Hastie, T., Tibshirani, R., and Friedman, J. (2001). *The Elements of Statistical Learning: Data Mining, Inference, and Prediction*, Springer.
- Mardia, K.V., Kent, J.T., and Bibby, J.M. (1979). *Multivariate Analysis*, Academic Press.

Final Exam

February, 2 h.11.00