SEAG2121 Multivariate statistical analysis

[30h+15h exercises] 5.5 credits

This course is not taught in 2005-2006
This course is taught in the 1st semester
Language: French
Level: Second cycle

Main themes

The aim of this course is to give students an introduction to the basic concepts and techniques of multivariate statistics: this will involve giving them the training they need to follow a course in econometrics at a later stage, and presenting them with some "non-econometric" techniques.

Content and teaching methods

Content
The course is divided as follows:
1. An introduction to the basic concepts of multivariate statistics (e.g. marginal and conditional distributions, moments, linear and conditional approximations, decomposition of variance, the transformation of random variables, and ellipsoid concentration).
2. A multivariate study of normal and student's distributions. An introduction to Wishart distribution.
3. A review of the basic concepts of statistical inference (e.g. classical and Bayesian methods, estimation and test hypotheses).
4. Application of these concepts to normal multivariate distribution.
5. An introduction to the techniques of principal components and discriminant analysis.
Methodology
The course will include 30 hours of lectures and 15 hours of applied exercises. At the moment, students may sit the examination with references books open. The examination focuses mainly on exercises. There are course notes available.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

The course pre-requirements are all the courses in mathematics and statistics included in the "management" section of the preparatory course in Economic Sciences.

Programmes in which this activity is taught

ECGE12
STAT2MS Master en statistique, orientation générale, à finalité spécialisée