

CEU Political Science Department
MA Program
2009/2010 Winter
Multivariate Statistics
4 credits

Instructor: Tamas Rudas
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Office hours: by appointment
Class meets:

The class is offered to students both in the 1-year and the 2-year MA programmes.

Course description:

The class will discuss multivariate statistical methods that are often applied in political science. These methods seek to understand the nature of the relationships between variables. We will start with a review of multivariate regression analysis and then discuss variants of it that are able to handle categorical responses. Then we shall discuss factor analysis and variants of it and methods that can handle mixed discrete and continuous data. Coverage will be completed by considering methods for the analysis of categorical data. The exact material will depend, to a certain extent, on the background of students in the class.

Goals of the course:

To present multivariate statistical methods in an applied setting appropriate for political scientists. To encourage students to run their own analyses. To show the correct and flexible interpretation of the results.

Class format:

Students will run their own analyses (with SPSS or similar software) and after some theoretical introduction, the outputs will be discussed, emphasizing correct interpretation and possible variants of the analyses. Students will be encouraged to work in teams.

Prerequisites

Ability to run SPSS or similar statistical software, plus basic statistics knowledge

Learning goals and outcomes:

Ability to choose the appropriate statistical method for several research problems; to parameterize and run the relevant analyses; to critically interpret the results of the analyses.

Texts:

There is no textbook for this class. The following books may be used as background reference:

SPSS for Windows made simple / Paul R. Kinnear, Colin D. Gray

A crash course in **SPSS** for Windows / Rod Corston and Andrew Colman

Exploring social issues using **SPSS** for Windows / Joseph F. Healey, Earl R. Babbie, Fred Halley

Quantitative data analysis with **SPSS** for Windows : a guide for social scientists / Alan Bryman and Duncan Cramer

Topics to be covered (subject to change)

Week 1 Multivariate regression

Week 2 Logistic regression

Week 3 Factor analysis

Week 4 Analysis of variance and discriminant analysis

Week 5 Categorical data analysis I

Week 6 Categorical data analysis II

Week 7 Review and midterm test

Week 8 Student presentations and discussion I

Week 9 Student presentations and discussion II

Week 10 Student presentations and discussion III

Week 11 Student presentations and discussion IV

Week 12 Review

Grading:

Midterm test (30%) and final research report (70%) on a topic selected by the student, using multivariate statistical methods discussed in class