Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLUkurs

Syllabus

PFS0002 Multivariate methods for ecologists, 4.5 credits

Syllabus approved

2002-05-30

Subjects

Statistics, Computer Science and Systems Science

Education cycle

Third cycle

Grading scale

Pass / Failed
The requirements for attaining different grades are described in the course assessment criteria which are contained in a supplement to the course syllabus. Current information on assessment criteria shall be made available at the start of the course.

Language

English

Prior knowledge

Basic course in statistics, 5p, or the equivalent.

Objective, including learning outcomes

The course aims to illustrate a number of factors which should be considered in the design and analysis of ecological data. The course will concentrate more on the

selection of analysis methodology (e.g. application of multivariate methods), than on the mathematical details of the various statistical procedures.

Content

Lectures will focus on sampling design strategies and their importance for the selection of evaluation methods. The importance of scale concepts on spatial and temporal aspects will be discussed. A number of ordination and classification procedures will be demonstrated, such as table arrangement, cluster analysis, canonical correspondence and redundancy analyses (CANOCO), principle components analysis (PCA), and partial least square-analysis (PLS). Demonstration and interpretation of these methods and their application using chemical and biological environmental monitoring data from freshwater and terrestrial habitats.
The course is given in two parts: The first part involves lectures and supervised computer exercises, and the second involves supervised individual work with own data. Participants may register for either the first or both parts.

Requirements for examination

Will be notified during course.

Additional information

Responsible department

Department of Aquatic Sciences and Assessment