



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLUkurs

Syllabus

PNS0085 Statistical Programming in R, 5.0 credits

Syllabus approved

2011-09-12

Subjects

Mathematic Statistics

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

POG0043 Statistics for Biologists I or equivalent

Objective, including learning outcomes

The objective of the course is partly to give an introduction to the software R and how to write elementary programs and partly to demonstrate how statistical models are implemented and applied. At the end of the course the student will be

able to

- import, manage and structure data files
- write simple program scripts for data analysis
- produce illustrative data plots
- carry out statistical tests and calculate confidence intervals
- select appropriate linear or generalized linear models and interpret them correctly

Content

The course will cover the following topics:

- Simple computer programming: expressions, variables, data types, logical conditions, flow control and functions.
- Data management: data import/export and data frames.
- Graphical procedures.
- Hypothesis tests and confidence intervals.
- Linear models like ANOVA, linear regression and mixed models.
- Generalized linear models.

Requirements for examination

Written reports on two individual home assignments and written report and oral presentation of an individual project based on student's own data set.

Additional information

Marking scale: Pass/Failed

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Responsible department

Department of Economics