Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLUkurs

Syllabus

PNS0104 Statistics III: Regression analysis, 4.0 credits

Syllabus approved

2013-07-05

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

Statistics I: Basic Statistics or equivalent

Objective, including learning outcomes

The objective of the course is to give an overview of linear, nonlinear and nonparametric regression and general linear models. On completion of the course, the student will be able to:

- describe regression models and general linear models including conditions and assumptions
- select an appropriate regression model for a given problem
- carry out a regression analysis
- interpret and evaluate results correctly and draw reasonable conclusions
- clearly and concisely communicate results and conclusions
- critically assess published results from regression analysis
- use statistical software for analysis

Content

The course will cover the following topics:
- Simple linear regression.
- Multiple linear regression.
- Nonlinear models.
- Nonparametric regression.
- Regression with autocorrelated errors.
- General linear models (GLM).
- Generalized additive models (GAM).
- Analysis of residuals.

Requirements for examination

Requirements for examination:
Passed exercises and passed examination in written and/or oral form.

Additional information

Implementation
Scheduled activities:
Lectures 16 h
Computer exercises 4 h
Examination and course evaluation 10 h
Self studies 80 h
Totally 110 h

Responsible department

Department of Energy and Technology