Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLUkurs

Syllabus

PFS0084 Mixed models, 5.0 credits

Syllabus approved

2012-04-04

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

PhD-student or equivalent. Basic courses in statistics including Analysis of variance, corresponding to Statistics for Biologists 1.

Objective, including learning outcomes

After the completion of the course the student should be able to:

Identify the need for mixed models when analyzing experimental and non-experimental data:
Be able to formulate appropriate mixed models for data analysis, in particular models for repeated measures, for subsampling and for designs such as split-plot designs;
Analyze the models, using the statistical software SAS.

Content

Review of the general linear model with fixed effects: ANOVA and regression
Random effects in 1 and 2-dfactor completely randomized experiments
Blocks as a random effect
Nested designs
Models with several error terms: Split plot designs and its relatives
Repeated measures designs
Models with covariates
Spatial models
Non-normal data: brief comments on generalized linear mixed models
Model building and model diagnostics

Lectures, Lab demonstration and literature review.

Scheduled activities Estimated hours
- Lectures ca 36
- Literature studies ca 40
- Computer labs, ca 20
- Work on home assignments/examination ca 40

Total ca 136

Requirements for examination

Examination is done as home assignments during the course. The assignments can be based on data supplied by the course leader or, if appropriate, on data used in the student's own research.

Additional information

Register for attending: Violeta Kokos (Violeta.kokos@slu.se)

Responsible department

Department of Southern Swedish Forest Research Centre