



# SLUkurs

## Syllabus

**PFS0043 Statistical computing and graphics in R, 3.0 credits**

## Syllabus approved

2009-04-14

## Subjects

Biology/Mathematics

## 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

The course is aimed at PhD students that have a basic knowledge in statistics. The course does not require any experience in R, the R language or any other statistical software package.

## Objective, including learning outcomes

This one week course aims to give an introduction into the free statistical software package R. During the course, attendees will learn how to carry out statistical

hypothesis testing in R, interpret outputs in R, formulate the results for publication and produce high-end graphics that serve the need of the user and publishers.

## **Content**

Each course day will start with an introductory lecture on the statistical topic of the day and a second lecture on how to do these statistics in R. During the afternoon, hands on examples will be carried out on individual computers to understand, learn and practice the topics discussed in the morning.

Monday: Data import, data handling and managing Error messages in R

Tuesday: Classical tests, ANOVA, regression

Wednesday: Generalized linear models

Thursday: Mixed effects models

Friday: Advanced statistical modeling and graphics using own data

## **Requirements for examination**

The course will take the approach of learning by doing. Hands on examples will be carried out on individual computers to understand, learn and practice the topics discussed in the course.

## **Additional information**

Number of participants are restricted to 15. Costs for travelling and lodging must be covered by the attendees.

Attendees are expected to bring their own computer, with latest version of R, possibility to download packages from <http://cran.r-project.org> and general access to the internet.

## **Responsible department**

Department of Wildlife, Fish, and Environmental Studies