Swedish University of Agricultural Sciences

PFG0060, Basic R programming, 4.0 Hp

Syllabus

Valid from: 2018V

Level within study regulation:

Third cycle

Subject:

- Other Social Science

Grading scale:

Pass / Failed

Course language:

English

Entry requirements:

Admitted to a postgraduate program. The course is suitable for all graduate students. No programming experience is required, but students are recommended to possess knowledge in basic mathematical statistics.

Objectives:

The aim of the course is to provide basic knowledge of the R language and on the skills of writing R scripts for practical applications. The course will focus on the core of R programming language, and data manipulation with R.

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

- master the basic knowledge of R language,
- master functions commonly used for data manipulation,
- generate basic descriptive statistics, conduct a simple multiple linear regression analysis and specification test, and
- produce different types of data plot.

The course consists of lectures, computer exercises and self-study.

Content:

The course begins with an orientation connected to the following concepts:

- What is R and what can R do?
- An IDE (Integrated Development Environment) for R

Further, the course covers programming of R, specifically:

- Data types and data structures: vector, list, matrix, data frame, factor
- Import data and write out data
- Data manipulation
- Control flow
- Write simple function
- Plot
- Regression analysis

In computer exercise, students will write R scripts to solve specific problems by using the knowledge from the lecturers. Exercise materials are provided by the lecturer.

Modes of assessment:

Approved computer assignments - If a student has failed an examination, the examiner has the right to issue supplementary assignments. This applies if it is possible and there are grounds to do so.

- The examiner can provide an adapted assessment to students entitled to study support for students with disabilities following a decision by the university. Examiners may also issue an adapted examination or provide an alternative way for the students to take the exam.
- If this syllabus is withdrawn, SLU may introduce transitional provisions for examining students admitted based on this syllabus and who have not yet passed the course.
- For the assessment of an independent project (degree project), the examiner may also allow a student to add supplemental information after the deadline for submission. Read more in the Education Planning and Administration Handbook.

Organisation:

Department of Forest Economics

Supplementary information

Other information:

- The right to participate in teaching and/or supervision only applies for the course instance the student was admitted to and registered on.
- If there are special reasons, students are entitled to participate in components with compulsory attendance when the course is given again. Read more in the Education Planning and Administration Handbook.