



Sveriges lantbruksuniversitet  
Swedish University of Agricultural Sciences

# SLUkurs

## Syllabus

**PFG0004 Spatial Statistics, 7.5 credits**

## Syllabus approved

2002-06-04

## Subjects

Statistics, Computer Science and Systems Science

## 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 equivalent of: 7 Swedish Higher Education Credits (HEC) of basic courses in Mathematical Statistics and 7.5 HEC of basic courses in Regression Analysis.

## Objective, including learning outcomes

Spatial statistics deals with statistical models and methods for spatial data where, in addition to values relating to the primary phenomena of interest, the relative

spatial locations of observations are also recorded.

On completion of the course the students shall be able to

- discuss different types of spatial data including point patterns, geostatistical data, area data, and spatial interaction data,
- recognize some common methods to visualize, explore and model spatial data,
- select model and method, and to carry out and interpret analysis by means of computer software.

## **Content**

The course is delivered through a combination of lectures, computer lab sessions, and a project work. The lectures introduce the students to basic concepts and methods of spatial data analysis, and contain numerous worked examples to illustrate the concepts and methods. Computer lab sessions are held during which students work on specified exercises with the lecturer(s) and other staff on hand to help with any problems. This provides each student with one-to-one help when needed. The exercises aim to reinforce the lecture material, in addition to giving students practice of spatial data analysis. The course ends with a project work where students are applying the knowledge gained during the course for analysis of spatial data. Students will be encouraged to use their own adapted statistical data. The statistical software package R will be used in computer labs and exercises.

## **Requirements for examination**

Written examination and/or seminal presentation, and laboratory.

## **Additional information**

For application to the course, please send an email to [jun.yu@slu.se](mailto:jun.yu@slu.se).

Deadline for application: February 28, 2011

## **Responsible department**

Department of Forest Economics