Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

## Syllabus

# MS4012.1 Mathematical Statistics with Applications for Students in Forest Management, 7.5 credits

## Matematisk statistik för skogshushållare

The course is given as course independent of study programme

Syllabus discontinued 23 June 2003

Version 1 in Slukurs. Corresponds to version 1 in Ladok

## Syllabus approved

17 March 1997

The version applies to students admitted from autumn 1999 to spring 2002

The version is not a module version

## Subjects

Mathematical Statistics

## Education cycle

First cycle

## Modules

| Title | Code | Credits |
|---|---|---|
| Single module | 0101 | 7.5 |

## Advanced study in the main field

## 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

Swedish

### Prior knowledge

The equivalent of: 20 Swedish University Credits of basic (A-level) courses in forest resource management.

### Objectives

In mathematical statistics methods for analysis and decision-making in situations with uncertainty and randomness are studied. The aims of the course are to make the student familiar with the basic concepts of mathematical statistics and with the ways of thinking statistically, and also to communicate the basics of the theories in probability and statistical inference. After completed course, the student should be able to apply statistical methods for processing, analysis and presentation of data.

### Content

Descriptive statistics. The probability concept. Conditional probability an independent events. Random variables. Probability distributions. Expectation, variance, standard deviation, covariance, correlation. Dependent random variables. The general principles of statistical inference. Point estimators and interval estimators. Testing statistical hypotheses. Some non-parametric tests, e.g., the Sign test, the Wilcoxon tests, the Chi-Square test and construction of confidence interval for the median.

### Implementation

The instructions are given in form of lectures, exercises and computer laboratories.
Lectures ca 40 h
Exercises ca 40 h
Computer exercises ca 12 h

### Examination

### Requirements for examination

Written examination. Laboratory work on data from forest management problems

Written examination and laboratory work.

- If the student fails a test, the examiner may give the student a supplementary assignment, provided this is possible and there is reason to do so.
- If the student has been granted special educational support because of a disability, the examiner has the right to offer the student an adapted test, or provide an alternative assessment.
- If changes are made to this course syllabus, or if the course is closed, SLU shall decide on transitional rules for examination of students admitted under this syllabus but who have not yet passed the course.
- For the examination of a degree project (independent project), the examiner may also allow the student to add supplemental information after the deadline. For more information on this, please refer to the regulations for education at Bachelor's and Master's level.

**Additional information**

- The right to take part in teaching and/or supervision only applies to the course date to which the student has been admitted and registered on.
- If there are special reasons, the student may take part in course components that require compulsory attendance at a later date. For more information on this, please refer to the regulations for education at Bachelor's and Master's level.

**Responsible department**

Department of Forest Resource Management

**Supplementary Information**

*Finalized by:* Programnämnden för skogsvetarprogrammet