

Syllabus

for course at advanced level

Experimental Design
Försöksplanering

7.5 Higher Education
Credits
7.5 ECTS credits

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|--------------------------|---|
| Course code: | ST423A |
| Valid from: | Autumn 2014 |
| Date of approval: | 2010-05-19 |
| Changed: | 2014-03-12 |
| Department | Department of Statistics |
| Main field: | Statistics |
| Specialisation: | A1N - Second cycle, has only first-cycle course/s as entry requirements |

Decision

This syllabus is approved by the Board of the Department of Statistics on May 23, 2007 and revised on 12 March, 2014.

Prerequisites and special admittance requirements

90 ECTS credits in Statistics or equivalent and Swedish upper secondary school course English B or equivalent.

Course structure

| Examination code | Name | Higher Education Credits |
|------------------|-----------------------|--------------------------|
| 11FE | Design of Experiments | 7.5 |

Course content

The course consists of one course module:

1. Experimental Design

The course treats experimental methods used in social sciences as well as economics, science, technology and medicine. The aim of the course is to give knowledge in statistical experimental design in regards to designing and conducting experiments and analysis of data generated from experiments. Experiments that are given special focus in the course include single factor experiments, randomized blocks, Latin squares, factorial experiments (e.g. 2k factorial experiments), and analysis of variance. Different applications of experimental design and analysis of variance are given much focus in the course.

The course provides a basis for further advanced studies and research studies in Statistics.

Learning outcomes

To pass the course the student should be able to:

- * give an account of methods used for experimental design
- * choose adequate experimental designs for different types of problems and situations
- * analyse data generated by factorial experiments by using analysis of variance

Education

The teaching consists of lectures and exercises.

Forms of examination

a. Examination will be done by measuring the knowledge of the learning outcomes. Examination will comprise a written test and a written, and/or, oral report of a compulsory exercise.

b. Grading is done according to a 7-point scale related to the specified learning outcomes:

A = Excellent

B = Very Good

C = Good

D = Satisfactory

E = Sufficient

Fx = Insufficient

F = Completely insufficient

c. Grading criteria will be distributed at the beginning of the course.

d. To pass the entire course, a minimum grade of E is required.

e. Students who have received the grade Fx or F on an examination are entitled to at least four additional examinations to achieve the lowest grade E as long as the course is given.

If a student has received the grade Fx on the written reports but is close to passing the assignment, there may be a possibility to hand in an additional assignment. The assignment should be handed in within the given time frame and after the examiner having advised on the need to revise the assignment.

Students who have received the grade E on an examination may not retake this examination in order to achieve a higher grade.

Students who have received the grade Fx or F on an examination on two occasions by the same examiner have the right to request that a different examiner be appointed to set the grade of the examination. The request must be in writing and sent to the head of the department.

The examination denotes all compulsory elements of the course.

Every time the course is given, there should be two examination opportunities during the current semester.

Interim

When the course syllabus is withdrawn, the student has the right to request examination once per term during a period of three terms in accordance with this syllabus. The request must be in writing and sent to the head of department.

Limitations

The course may not be included in a degree together with the course Experimental Design (ST403A) 7,5 ECTS credits or equivalent.

Required reading

The course literature is described in an appendix to the syllabus.