School of Economics and Management

STAA42, Statistics: Basic Course 2, 15 credits

Statistik: Grundkurs 2, 15 högskolepoäng

First Cycle / Grundnivå

Details of approval

The syllabus was approved by The Board of the Department of Statistics on 2021-11-29 to be valid from 2022-08-29, autumn semester 2022.

General Information

The course constitutes part of the first semester in statistics. It may be studied as a single subject course or can be included as an optional course in some programmes.

Language of instruction: Swedish

Main field of studies	*Depth of study relative to the degree requirements*
Statistics	G1F, First cycle, has less than 60 credits in first-cycle course/s as entry requirements

Learning outcomes

Knowledge and understanding

For a passing grade, the student shall

- be able to account for basic approaches in design of experiments,
- be able to account for concepts in statistical sample surveys and questionnaire construction, and
- demonstrate insights about analysis of variance, logistic regression and non-parametric methods.

Competence and skills

For a passing grade, the student shall

- be able to independently design and analyse experiments,
- be able to formulate a problem and solving it by constructing a questionnaire, collecting data, analysing the data, and present the solution in writing and orally,
- be able to analyse statistical problems using analysis of variance, logistic

regression and non-parametric methods,
- be able to independently perform analyses using statistical software, and
- be able to interpret and draw relevant conclusions from statistical analyses.

Judgement and approach

For a passing grade, the student shall

- be able to judge the setup and design of experiments,
- be able to reason about choices of statistical methodology,
- be able to judge the setup and design of statistical sample surveys, and
- be able to make ethical considerations in connection with statistical surveys.

Course content

The course is made up of two modules:

Module 1: Statistical Analysis and Design of Experiments (10 cr.)

The module covers design of experiments with multiple factor designs, analysis of variance, logistic regression, non-parametric methods.

Module 2: Survey Methodology in Theory and Practice (5 cr.)

The module covers theoretical and practical aspects of statistical surveys, e.g. data collection methods, questionnaire design, and applicable ethical guidelines and regulations. The module revolves around the practical application of the knowledge.

Course design

Module 1 and 2 run in parallel during the latter half of the course.

Module 1: Statistical Analysis and Design of Experiments

The module consists of lectures, exercises, tutorials, and computer lab sessions. During the module, the students must also design, perform and analyse small experiments, which are reported as laboratory reports.

Module 2: Survey Methodology in Theory and Practice

In this module the students must plan, perform, analyse and both in writing and orally report on a statistical survey. The must also review the report of another group. The task is done in groups of approximately four students. The teaching consists of an introductory meeting, lectures, supervision sessions, and final seminar.

Attendance at the introductory meeting, all supervision sessions and the final seminar is mandatory. For individual occasions, the examiner may grant an exemption from the attendance requirement and instead decide on a replacement assignment.

Assessment

The module *Statistical Analysis and Design of Experiments* is examined through quizzes, written assignments, and a final written exam.

The module *Survey Methodology in Theory and Practice* is examined by conducting a survey which is presented both as a written report and orally at a seminar.

The University views plagiarism very seriously, and will take disciplinary actions against students for any kind of attempted malpractice in examinations and assessments. Plagiarism is considered to be a very serious academic offence. The penalty that maybe imposed for this, and other unfair practice in examinations or assessments, includes suspension from the University.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, E, D, C, B, A.

A (Excellent) 85-100 points/percent. A distinguished result that is excellent with regard to theoretical depth, practical relevance, analytical ability and independent thought.

B (Very good) 75-84 points/percent. A very good result with regard to theoretical depth, practical relevance, analytical ability and independent thought.

C (Good) 65-74 points/percent. The result is of a good standard with regard to theoretical depth, practical relevance, analytical ability and independent thought and lives up to expectations.

D (Satisfactory) 55-64 points/percent. The result is of a satisfactory standard with regard to theoretical depth, practical relevance, analytical ability and independent thought.

E (Sufficient) 50-54 points/percent. The result satisfies the minimum requirements with regard to theoretical depth, practical relevance, analytical ability and independent thought, but not more.

F (Fail) 0-49 points/percent. The result does not meet the minimum requirements with regard to theoretical depth, practical relevance, analytical ability and independent thought.

To pass the course, the students must have been awarded the grade of E or higher.

Individual examinations may have the grading scale Pass/Fail.

Grades are given for examinations and full course, but not for modules. The grade of the full course is determined as a weighted mean of the results of the examinations expressed as percentages of the maximum scores. The following weights are utilised:

Module - Examination : Weight
Statistical Analysis and Design of Experiments - Quizzes : 5 %
Statistical Analysis and Design of Experiments - Assignments : 10 %
Statistical Analysis and Design of Experiments - Exam : 60 %
Survey Methodology in Theory and Practice : 25 %

Entry requirements

General entry requirements and STAA41 Statistics: Basic Course 1, or the equivalent.

Further information

The course may not be combined with STAA40 in a degree.

This course replaces STAA32 Statistics: Basic Course 2.

If the the course is discontinued, another five exam opportunities will be arranged within one year after the regular exam.

Subcourses in STAA42, Statistics: Basic Course 2

Applies from H22

2201 Statistical Analysis and Design of Experiments - Quizzes, 1,0 hp
Grading scale: Fail, Pass
2202 Statistical Analysis and Design of Experiments - Assignments, 2,0 hp
Grading scale: Fail, Pass
2203 Statistical Analysis and Design of Experiments - Exam, 7,0 hp
Grading scale: Fail, Pass
2204 Survey Methodology in Theory and Practice, 5,0 hp
Grading scale: Fail, Pass