



School of Economics and Management

STAG22, Statistics: Sampling Theory, 7.5 credits

Statistik: Stickprovsteori, 7,5 högskolepoäng
First Cycle / Grundnivå

Details of approval

The syllabus was approved by The Board of the Department of Statistics on 2018-06-04 and was last revised on 2022-08-29. The revised syllabus applies from 2023-01-16, spring semester 2023.

General Information

First cycle level course in statistics. The course is elective in a Bachelor degree in statistics. The course may also be taken as a single subject course or within other Bachelor and Master's programmes at Lund University

Language of instruction: Swedish

Main field of studies

Statistics

Depth of study relative to the degree requirements

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

- demonstrate knowledge and understanding of sampling methods and estimators in finite and infinite populations.

Competence and skills

For a passing grade the student shall

- demonstrate the ability to independently solve estimation problems,
- demonstrate the ability to derive the statistical properties of estimators, and
- demonstrate the ability to present and discuss estimation and sampling problems in writing.

Judgement and approach

For a passing grade the student shall

- demonstrate the ability to make assessments when designing sample surveys from both a practical and a theoretical point of view.

Course content

The course covers statistical methods for studying finite and infinite populations. Simple random sampling, stratified sampling, systematic sampling, and cluster and multistage sampling with equal and unequal probabilities, as well as ratio and regression estimation are covered. Furthermore, the course also covers estimation of the size of a population and practical aspects of sample surveys, such as nonresponse and other quality issues.

Course design

The course is designed as a set of lectures, exercise sessions, computer lab sessions, and a final seminar.

Assessment

The examination consists of a written exam and assignments presented in writing.

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.

The grade is determined by the result on the written exam.

Entry requirements

General entry requirements and STAA40 Statistics: Basic Course, or the equivalent.

Subcourses in STAG22, Statistics: Sampling Theory

Applies from V19

- 1901 Examination, 6,5 hp
Grading scale: Fail, E, D, C, B, A
- 1902 Assignments, 1,0 hp
Grading scale: Fail, Pass