SF1902 Basic Statistics and Probability Theory for Economists 6.0 credits

Grundkurs i statistik och sannolikhetsteori för ekonomer

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

Course syllabus for SF1902 valid from Autumn 2007

Grading scale

A, B, C, D, E, FX, F

Education cycle

First cycle

Main field of study

Technology

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

To pass the course, the student should be able to do the following:

- construct elementary statistical models for experiments
- state standard models and explain the applicability of the models in given examples
- summarise data sets with descriptive statistics as measures of location, spread and dependency, and present data graphically
- define real public indices and construct an index in a real application
- calculate estimates of unknown quantities with standard methods and quantify the uncertainty in these estimates
- describe how measuring accuracy affect conclusions and quantify risks and error probabilities when testing statistical hypothesis
- explain the basic concepts behind sampling surveys and critically examine statistical information
- use statistical software

To receive the highest grade, the student should in addition be able to do the following:

- Combine all the concepts and methods mentioned above in order to solve more complex problems.

Course contents

Basic concepts like probabilities, conditional probabilities and independent events. Discrete and continuous models, normal, binomial and Poisson distribution. Central limit theorem and Law of large numbers. Measures of location and scale of random variables and data sets.

Descriptive statistics. Graphical visualisation of data sets. Construction of indices and public statistical production.

Point estimates. Confidence intervals for mean of normally distributed observations. Confidence intervals for proportions, difference in means and proportions. Testing statistical hypothesis.

Specific prerequisites

SF1627 (5B1150).

Course literature

To be announced.

Complemental material from the department.

Examination

- INL1 - Exersices, 3.0 credits, grading scale: P, F
- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

Other requirements for final grade

Written exam (3 university credits) and assignments (3 university credits)

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.