



IX1504 Descriptive Statistics 7.5 credits

Deskriptiv statistik

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 IX1504 valid from Autumn 2008

Grading scale

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

Education cycle

First cycle

Main field of study

Mathematics, Technology

Specific prerequisites

Entrance qualifications:

IX1306 - Mathematics for Economic Applications

Language of instruction

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

Intended learning outcomes

GENERAL OBJECTIVES

After course completion the student should be able to

- **formulate, analyze and solve problems in statistics significant to in the Economics sphere**
- **apply and develop statistical models with the aid of mathematical programming language**
- **review and comment a given solution to a problem**
- **comment domain and propose improvements to a statistical model**
- **make presentations of solutions of a statistical problem**

DETAILED OBJECTIVES

After course completion the student should be able to

- **apply basic statistical models to an experiment**
- **specify a standard model and comment the fitness for given data**
- **describe data with summary measures, such as mean, variance and covariance**
- **present data graphically in a suitable way**
- **compute point estimates and interval estimates**
- **compute correlation and regression line**
- **explain how errors influence conclusions and estimate the error risks in hypothesis testing**
- **explain the principles of statistical surveys and make a critical review statistical data**

Course contents

Introduction to probability theory statistical distributions, measures (location, spreading and dependence) data gathering and planning statistical surveys- graphical presentation in one and two dimension time series point estimates, interval estimates, mean square error, systematic error hypothesis test regression analysis, correlation

Disposition

The teaching method is problem oriented and computer aided. The education time is evenly distributed among the three main topics

- **conceptual understanding and modelling**
- **algorithms**
- **conclusions and synthesis.**

Examination

- INL1 - Problem Assignments, 4.0 credits, grading scale: P, F
- TEN1 - Examination, 3.5 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 (TEN1; 3.5hp) Problem assignments (INL1; 4hp)

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.