

Regression Methods

Single subject and programme course

7.5 credits

Regression Methods

732G28

Valid from:

Determined by

The Quality Board at the Faculty of Arts
and Sciences

Date determined

2008-12-20

Main field of study

Statistics

Course level

First cycle

Advancement level

G1X

Entry requirements

Student's entering the course should have passed at least one course in basic statistics, and at least one course in mathematics. Documented knowledge of English equivalent to Engelska B/Engelska 6; i.e. English as native language or an internationally recognized test, e.g. TOEFL (minimum scores: Paper based 575 + TWE-score 4.5, and internet based 90), IELTS, academic (minimum score: Overall band 6.5 and no band under 5.5), or equivalent.

Intended learning outcomes

After completion of the course, the student should be able to:

- employ regression models to examine relationships between random variables and derive linear predictors and classifiers from given data sets,
- assess the quality of given data sets and the generalization capacity of identified statistical relationships,
- account for widely used methods for regression analysis,
- account for selection, estimation and validation of regression models.

Course content

The course provides basic skills for professional work in which data are explored, modified, modeled and assessed by the use of different regression models.

The course content comprises practical as well as theoretical elements, for example:

- computer exercises,
- simple and multiple linear regression, logistic regression, Poisson regression,
- point and interval estimation and significance testing of model parameters,
- multicollinearity,
- residual analysis,
- model selection based on hypothesis testing and information criteria.

Teaching and working methods

Computer exercises in which the students have access to supervision provide practical experience of data analysis. The teaching comprises lectures/tutorials and computer exercises. The lectures/tutorials are devoted to presentations of theories, concepts, and methods and reviews of computer exercises. Language of instruction: English.

Examination

Assignments encompassing computer-based data analysis. One final written or oral examination.

Grades

ECTS, EC

Other information

Planning and implementation of a course must take its starting point in the wording of the syllabus. The course evaluation included in each course must therefore take up the question how well the course agrees with the syllabus. The course is carried out in such a way that both men's and women's experience and knowledge is made visible and developed.

Department

Institutionen för datavetenskap