

Decision Theory

Single subject and programme course

6 credits

Beslutsteori

732A66

Valid from: 2016 Autumn semester

Determined by

The Quality Board at the Faculty of Arts
and Sciences

Date determined

2016-09-30

Main field of study

Statistics

Course level

Second cycle

Advancement level

A1N

Course offered for

- Masters Programme in Statistics and Machine Learning

Entry requirements

A bachelor's degree in one of the following subjects: statistics, mathematics, applied mathematics, computer science, engineering, or equivalent. Completed courses in calculus, linear algebra, statistics and programming are required. Documented knowledge of English equivalent to Engelska B/Engelska 6.

Intended learning outcomes

After completion the course, the student should on an advanced level be able to:

- use statistical methods for decision making,
- apply the principles for subjective probability interpretation, Bayesian inference, utility theory and sequential analysis in order to make a decision,
- critical assess the presumptions for each step in a decision making process

Course content

The course content comprises:

- The subjective interpretation of probabilities
- Probabilistic reasoning and likelihood theory,
- Bayesian hypothesis evaluation,
- Decision theoretic elements
- Utility and loss functions
- Graphical modelling as a tool for decision making
- Sequential analysis

Teaching and working methods

Assignments encompassing both theoretical and computer-based exercises. One final oral examination.

Detailed information about the examination can be found in the course's study guide.

Examination

Assignments encompassing both theoretical and computer-based exercises. One final oral examination.

Detailed information about the examination can be found in the course's study guide.

Grades

ECTS, EC

Department

Institutionen för datavetenskap