Cognitive Modelling

Single subject and programme course

6 credits

Kognitiv modellering

729G15

Valid from:

Determined by
The Quality Board at the Faculty of Arts
and Sciences

Date determined
2008-04-16

Revision date
2016-08-25

Replaced by
729G83

Main field of study

Cognitive Science

Course level

First cycle

Advancement level

G1X

Course offered for

- Bachelor´s Programme in Cognitive Science

Entry requirements

For admission to the course, the specific entry requirements that apply for admission to the Bachelor's Programme in Cognitive Science must be satisfied, and the courses Cognitive Psychology, comprising 6 HE credits, Programming and Logic, comprising 6 HE credits, and Cognitive Neuroscience, comprising 6 HE credits, or the equivalent, must be completed.

Intended learning outcomes

On completion of the course, the student should be able to:
- account for different modelling methods
- implement a cognitive model
- describe and reason about the model
- validate the model, i.e. argue for the correctness of the model
- communicate results, orally and in written form.

Course content

The course covers:
- Connectionism versus symbolism,
- introduction to artificial neural networks,
- cognitive models in computational neuroscience,
- basic modelling methodology,
- Hebbian learning,
- back propagation of error,
- bidirectionally connected multi-layer networks,
- the role of inhibition,
- k Winners Take All (kWTA).

Teaching and working methods

The teaching takes the form of lectures, seminars and laboratory sessions. The student is expected to study independently, individually or in groups.

Examination

The course is examined through written examination, laboratory sessions and written assignments.

Students failing an exam covering either the entire course or part of the course twice are entitled to have a new examiner appointed for the reexamination.

Students who have passed an examination may not retake it in order to improve their grades.

Grades

Three-grade scale, U, G, VG

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.

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Department

Institutionen för datavetenskap