



FDD3433 Systems Level Theories of Brain Function 3.0 credits

Systemnivåteorier för hjärnfunktion

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

Establishment

Course syllabus for FDD3433 valid from Autumn 2012

Grading scale

G

Education cycle

Third cycle

Specific prerequisites

Language of instruction

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

Intended learning outcomes

The course will give the students an overall view of contemporary theories of brain function and how these theories are grounded in the knowledge about the function of neurons and synapses as well as plasticity and computational models thereof.

Course contents

This course examines relevant principles of how the brain works and attempts to link them to the neural and synaptic level and to computational neural network models. Particular emphasis will be placed on understanding processes of learning, memory, and decision making. The course is organized in the form of seminars (about 15 x 1 h) where seminal papers or books in the field are presented and discussed by participants.

Course literature

During 2012 the book “The Noisy Brain” by Rolls and Deco was used as course literature.

Examination

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.

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

Other requirements for final grade

The student is required to prepare and take active part in a minimum of 75% of the seminars and present and lead at least one of them.

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.