DD2401 Neuroscience 7.5 credits

Neurovetenskap

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

Establishment

Course syllabus for DD2401 valid from Spring 2019

Grading scale

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

Education cycle

Second cycle

Main field of study

Biotechnology, Electrical Engineering

Specific prerequisites

Single course students: 90 university credits including 45 university credits in Mathematics or Information Technology. English B, or equivalent.

If there are too few applicants the course can be cancelled.

Language of instruction

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

Intended learning outcomes

Following the course the student should be able to:

- describe the micro- and macrostructure of the nervous system
- describe the whole chain of structures and their functions, from single ion channels in the cell membranes to sensory, motor and cognitive functions
- summate the scientific bases for how to achieve knowledge about the different parts of the nervous system
- evaluate and describe the content in scientific articles within the fields of neuroscience and neuroinformatics.

Course contents

The function of the single nerve cell at the molecular and cellular level; the organization of the nervous system and its neuronal networks; neural control of simple and more complex functions; the most common neuroinformatics approaches.

The course comprises lectures and practical exercises.

Course literature

Purves, Augustine, Fitzpatrick, Hall, LaMantia, White (Ed) Neuroscience 5th ed. Sinauer Associates Inc Publishers 2011.

Examination

- TEN2 - Examination, 7.5 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.

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

In this course all the regulations of the code of honor at the School of Computer science and Communication apply, see: http://www.kth.se/csc/student/hederskodex/1.17237?l=en_UK.

Other requirements for final grade

Taking part in the practical exercises gives bonus points.

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.