

Behavioral Neurobiology

Programme course

7.5 credits

Beteendets neurobiologi

NBID54

Valid from: 2017 Spring semester

Determined by

Board of Studies for Chemistry, Biology
and Biotechnology

Date determined

2017-01-25

Offered for the last time

Autumn semester 2023

Main field of study

Biology, Chemical Biology

Course level

Second cycle

Advancement level

A1X

Course offered for

- Applied Ethology and Animal Biology, Master's Programme

Entry requirements

Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites

120 ECTS including 90 ECTS in Biology.

Intended learning outcomes

The student will increase her/his understanding of brain function in general and the role of hemispheric specialization in particular.

The student will develop a proficiency in finding, evaluating and compiling primary and secondary research literature on a specific topic.

The student will learn to design and conduct experiments on hemispheric specialization and to perform proper analysis of the data obtained.

The student will improve her/his skills in summarizing and communicating the results of her/his own experimental results as well as of literature searches in both written and oral form.

Course content

The course is centered around different aspects of hemispheric specialization as an approach to better understand brain function. Topics include:

- Anatomical, neurochemical and behavioral asymmetries in the brain
- Phylogeny of lateralized brain function
- Ontogeny of lateralized brain function
- Significance and adaptive value of lateralized behavior
- Experimental approaches to assess hemispheric specialization
- Searching and reading primary scientific literature within areas relevant for the course.
- Critical assessments, written summaries and oral presentations of scientific literature

Teaching and working methods

Nota bene: The course is scheduled fulltime during the second half of ht2. The course is organized in consecutive blocks covering different topics related to the overall theme of hemispheric specialization. Each block includes either a literature assignment or a laboratory exercise, that is, experiments to be performed and evaluated by the students. For each topic, some primary research articles and/or review papers will be provided as study material. The laboratory exercises in small groups require the writing of a lab report using quantitative methods and an oral presentation of the findings. The literature assignments in small groups require the writing of a one-page summary and an oral presentation to all other fellow students. The contents of the student presentations will be also evaluated in the course exam. Extra costs due to travelling and living must be paid by the student.

Examination

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|------|-------------------------------|-------------|------------|
| LAB1 | Laboratory reports | 2.5 credits | U, 3, 4, 5 |
| UPG1 | Essay report and presentation | 2.5 credits | U, 3, 4, 5 |
| HEM1 | Written examination | 2.5 credits | U, 3, 4, 5 |

The final grade is the average across the score of the three examination aspects in the course.

Grades

Four-grade scale, LiU, U, 3, 4, 5

Department

Institutionen för fysik, kemi och biologi

Director of Studies or equivalent

Agneta Johansson

Examiner

Matthias Laska

Education components

Preliminary scheduled hours: 160 h

Recommended self-study hours: 40 h

Course literature

Additional literature

Books

Lesley J. Rogers & Richard Andrew, (2002) *Comparative vertebrate lateralization*

Marian Annett, (2002) *Handedness and brain asymmetry : the right shift theory*

Sally Springer & Georg Deutsch, (1998/2004) *Left Brain Right Brain*

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://stydokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.