



**Karolinska  
Institutet**

Course syllabus for

## **Neuroscience, 9 credits**

Neurovetenskap, 9 hp

This course syllabus is valid from autumn 2019.

Please note that the course syllabus is available in the following versions:

[Autumn2013](#) , [Autumn2014](#) , [Autumn2019](#)

Course code	4BI096
Course name	Neuroscience
Credits	9 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Biomedicine
Level	AV - Second cycle
Grading scale	Fail (U) or pass (G)
Department	Department of Neuroscience
Decided by	Programnämnd 7
Decision date	2013-03-21
Revised by	Programme committee for study programmes in biomedicine
Last revision	2019-03-27
Course syllabus valid from	Autumn 2019

### **Specific entry requirements**

At least the grade G (pass) on the courses Applied communication in biomedicine 1 including philosophy of science and bioethics, Applied communication in biomedicine 2, Frontiers in translational medicine, Laboratory animal science in theory and practice, and Biostatistics, within the Master's Programme in Biomedicine.

### **Objectives**

After the course the students should be able to:

- Explain the organisation and anatomy of the nervous system.
- Explain the mechanisms of signalling, including neurotransmitters, receptors and other second messengers.
- Explain the clinical symptoms and current treatments of the most common neurological disorders.
- Discuss cellular and molecular mechanisms, current knowledge of the etiology of neurological disorders, as well as a general idea of ongoing 'state of the art' research.

## Content

The course covers the following themes: cognitive neuroscience, brain circuits, brain development and neurodevelopmental disorders, neurogenetics, and neurodegenerative disease mechanisms.

## Teaching methods

The pedagogic view is based on learning as an active research process. The course is an advanced course and it is assumed that students take responsibility to acquire knowledge. Teaching will be in the form of expert lectures, seminars and group-based work guided by researchers. Group-based and/or individual assignments are included and are presented as written reports and oral presentations. Computers will be used for searching information and for writing reports and presentations.

## Examination

The course is examined by active participation and assignments, presented orally or in writing.

### Compulsory participation

Participation in seminars and group work is compulsory. The course director assesses if and, in that case, how absence can be compensated. Before the student has participated in all compulsory parts or compensated absence in accordance with the course director's instructions, the student's results will not be registered in LADOK. Absence from a compulsory activity may result in that the student cannot compensate the absence until the next time the course is given.

### Limited number of examinations or practical training sessions

Students who have not passed the regular examination are entitled to participate in five more examinations. If the student is not approved after four examinations, he/she is recommended to retake the course at the next regular course date, and may, after that, participate in two more examinations. If the student has failed six examinations/tests, no additional examination or new admission is provided.

The number of times that the student has participated in one and the same examination is regarded as an examination session. Submission of a blank examination is regarded as an examination. An examination, for which the student registered but not participated in, will not be counted as an examination.

If there are special grounds, or a need for adaptation for a student with a disability, the examiner may decide to deviate from the syllabus's regulations on the examination form, the number of examination opportunities, the possibility of supplementation or exemptions from the compulsory section/s of the course etc. Content and learning outcomes as well as the level of expected skills, knowledge and abilities may not be changed, removed or reduced.

## Transitional provisions

After each course occasion there will be at least six occasions for the examination within a two-year period from the end of the course.

## Other directives

The course language is English.

## Literature and other teaching aids

There is no literature specified for this course. Please contact the department for more information.