Neurobiology

Programme course

7.5 credits

Neurobiologi

8MEA10

Valid from: 2020 Spring semester

Determined by
The Board for First and Second Cycle Programmes at the Faculty of Health Sciences

Date determined
2012-12-07

Revision date
2014-10-06

Main field of study
Medical Biology

Course level
Second cycle

Advancement level
A1X

Course offered for
- Master's Programme in Experimental and Medical Biosciences

Specific information
The aim of the course is for the student to acquire advanced knowledge of neurobiology and to get an overview of methods available for studies of the nervous system. The course covers current research topics within the area of neurobiology, and it comprises in-depth knowledge in medical biology. The course is elective semester two or four in the Master's Programme in Experimental and Medical Biosciences.

Entry requirements
The special eligibility requirement possession of the Degree of Bachelor of Sciences in a major subject area with relevance for biomedical sciences. This could include previous studies at faculties of medicine, technology/natural sciences, odontology or veterinary medicine. A major part of courses included in the Bachelor degree should be in subjects such as biochemistry, cell biology, molecular biology, genetics, gene technology, microbiology, physiology, immunology, histology, anatomy, and pathology.

Applicants must also have documented skills in English corresponding to the level of English in Swedish upper secondary education (English B). For applicants who have not studied in Swedish upper secondary education, skills in English are normally attested to by means of an international language test.

Intended learning outcomes

By the end of the course the students will be able to:
Knowledge and understanding

- Identify, understand and explain neurobiological phenomena
- Integrate knowledge from different biological and medical areas in order to explain a neurobiological phenomenon
- Integrate the knowledge to current research in medical neurobiology

Competence and skills

- Relate the new knowledge to cellular and molecular mechanisms
- Use and evaluate basic techniques for neurobiological research

Judgement and approach

- Discuss and evaluate the results of scientific publications

Course content

- Molecular mechanisms for nerve cell communication
- Molecular mechanisms of neurodegenerative diseases
- Development and plasticity of the nervous system
- Behaviour and higher functions
- Ethics

Teaching and working methods

General: Linköping University Master's Programme in Experimental and Medical Biosciences applies student-centered learning among which Problem Based Learning (PBL) is one pedagogical philosophy and method. To prepare the students for future employment, practical and experimental work in laboratory settings are important parts of the programme in courses as well as in individual projects.
Specific: In this course, tutorial groups, lectures, laboratory work and seminars are used.

Examination

Compulsory items
Active participation in the compulsory parts is necessary to pass the course, and assessment of them is carried out continuously. Compulsory parts in this course are: tutorial groups and laboratory work.

Examination
Individual written essay and oral presentation of literature study in a seminar
Individual written examination

Scope of re-examination
The extent of a re–examination shall be similar to the regular examination.

Change of examiners
Students who have failed the course or part of the course twice are entitled to request another examiner for the following examination occasion, unless specific reasons are present.

Registration for examination
The procedure for registration should be stated prior to the commencement of each course. In other respects, regulations concerning examination and examiners are applied in accordance with Linköping University policy.

Grades

Three-grade scale, U, G, VG

Other information

The planning and implementation of a course must take its starting point in the wording of the course plan. The course evaluation included in each course must therefore take up the question how well the course agrees will the course plan.

The course is carried out in such a way that both men's and women's experience and knowledge is made visible and developed.

If the course is withdrawn, or is subject to major changes, examinations according to this course plan are normally offered on a total of three occasions within one year, one of them in close connection to the first examination.

Department

Institutionen för biomedicinska och kliniska vetenskaper