



LUND
UNIVERSITY

Faculty of Medicine

VMFN27, Neuro Science, 30 credits

Neurovetenskap, 30 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by The Master's Programmes Board on 2016-06-07 to be valid from 2016-07-01, autumn semester 2016.

General Information

Freestanding course. The course is intended as a preparation for third cycle studies in relevant fields at faculties of medicine, science or engineering and for students with a first or second cycle degree in science, biomedicine or medicine. The course is delivered full-time.

Language of instruction: English

Main field of studies

Biomedicine

Depth of study relative to the degree requirements

A1N, Second cycle, has only first-cycle course/s as entry requirements

Learning outcomes

The aim of the course is to enable students to acquire specialised theoretical and practical knowledge of neuroscience, from basic research to pre-clinical and clinical applications of research. A further aim is to enable students to acquire practical experience of laboratory work or clinical methodology through project work in neuroscience.

Knowledge and understanding

On completion of the course, the students shall be able to

- account for different types of brain cells and their properties, compare biological properties of normal brain cells and brain cells in the presence of disease

- account for the most common experimental methods in current research in neuroscience, including animal models

Competence and skills

On completion of the course, the students shall be able to

- independently formulate a topical research issue in neuroscience, select relevant methods to address the issue, and draw up a project plan based on the issue and methods and including relevant background information, an appropriate aim and a realistic work plan
- use methods of relevance to the execution of a project in neuroscience
- independently document research results from a project in neuroscience, compile, critically analyse and assess the research results in the form of a written research report, produced in accordance with the instructions provided in a selected research journal
- identify and analyse ethical issues in a research project in neuroscience and determine whether ethical permission is required or not
- argue for the need of documentation with regard to experimental activities

Judgement and approach

On completion of the course, the students shall be able to

- assess research information in neuroscience
- assess ethical aspects of a research project in neuroscience

Course content

The course starts with 2 weeks of preparation of the project work and lectures and seminars led by experienced researchers and clinical practitioners. The student is to select one of a set of available research projects presented and write a project plan to be approved by the course management. Following approval, the student is to execute the project described in the project in parallel with participating in seminars, group discussions and literature discussions. The aim of the group work is to continually follow up the project work with regard to supervision, data collection and practical research methodology. All seminars/group assignments require active preparation in the form of reading and review of distributed material and/or of the student's independent production of texts for submission and assessment, followed by individual oral and written feedback.

Course design

The teaching consists of lectures, seminars, group discussions- ethics, literature assignments ("journal clubs"), presentations related to current research areas, and project work including laboratory components and/or other components related to research methodology.

Assessment

The assessment is based on 4 examination components: (1) Written exam after the first two weeks, (2) project plan, (3) course portfolio, and (4) a project work to be reported in speech and writing (and critically reviewed by a fellow student) .

The written components are used to assess the learning outcomes of knowledge and understanding.

The course portfolio is used to assess the learning outcomes of competence and skills and judgement and approach through active participation in group work, oral presentations and written assignments on ethical aspects related to the project.

The oral and written report of the project work is used to assess the learning outcomes of knowledge and understanding and competence and skills.

The critical review of a fellow student's project report is used to assess the learning outcomes of competence and skills and judgement and approach.

Other forms of examination can be used if there are special reasons,

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, Pass.

Entry requirements

To be admitted to the course, students must have a degree of Bachelor (180 credits) in science, biomedicine, medicine or another relevant discipline. International students are exempted from the general entry requirement of proficiency in Swedish but all students are required to have proficiency in English corresponding to English 6 from Swedish upper secondary school.

Subcourses in VMFN27, Neuro Science

Applies from H16

- 1601 Written Exam, 3,0 hp
Grading scale: Fail, Pass
- 1602 Project Plan, 2,0 hp
Grading scale: Fail, Pass
- 1603 Written and Oral Presentation of Project, 20,0 hp
Grading scale: Fail, Pass
- 1604 Course Portfolio, 5,0 hp
Grading scale: Fail, Pass