

# INSTITUTE OF NEUROSCIENCE AND PHYSIOLOGY

# EXA931 Master Thesis in Pharmaceutical Science, 30 credits

Examensarbete på masternivå i farmaceutisk vetenskap, 30 högskolepoäng Second Cycle

#### Confirmation

This course syllabus was confirmed by Institute of Neuroscience and Physiology on 2018-12-10 to be valid from 2018-12-11, spring semester of 2019.

*Field of education:* Pharmacy 100% *Department:* Institute of Neuroscience and Physiology

#### Position in the educational system

The course constitutes the 9th semester of the Pharmacy programme.

The course can also be given as a free standing course.

The course can be part of the following programme: 1) Programme in Pharmacy (F2APP)

Main field of studies	Specialization
Pharmaceutical Science	A2E, Second cycle, contains degree project
	for Master of Arts/Master of Science (120
	credits)

#### **Entry requirements**

Admission to the course requires all courses passed at the semester 1-6 at the Pharmacy programme, and passed courses (at basic level) within the main field of the study project. Additional requirement is that all courses on semester 7 is completed. Entry requirements also include equivalent knowledge of at least Bachelor science degree in Pharmaceutical Sciences or Biomedicine or similar subject

### Learning outcomes

The general aim of the course is that the course participant should be able to apply scientific research processes and present the results in a written report and at a final review seminar.

After passed course the course participant should be able to:

# Knowledge and understanding

- - critically review, explain and argue for models and used methods and their application with relevance to the main field of study
- systematically search, review, evaluate, interpret and compile knowledge in an own individual written report
- - show considerable advanced knowledge in the chosen research field and in applied scientific methods

# Competence and skills

- - formulate and problematize research issue(s) within the main field of study (pharmaceutical science) as well as argue for and apply relevant scientific methods
- - formulate a search strategy for chosen aim(s) as well as account and describe choice of search words, search strategies and information sources
- - set up and formulate a research plan
- - carry out and defend the completed study
- - document his/her master degree project in the shape of a manuscript adapted to a chosen scientific journal with adequate scientific language
- - critically review and assess another completed master degree project in the course / on master level

# Judgement and approach

- - reflect on research-ethical issues
- - search, evaluate and critically interpret relevant information to be able to analyse and solve problems
- - evaluate and identify needs for additional knowledge
- - identify and discuss aspects concerning sustainability in the own scientific work.

# Course content

The Master thesis project should be an experimental, epidemiological, qualitative or clinical (e g follow-up of clinical study trial and/or treatment strategy). In cases where

the research projects cannot be complete according to plan, the master thesis can be carried out as a well-grounded critical literature review based on articles in the literature from where conclusions are drawn and limitations are stressed. The general contents of the course are: 1. Project planning and design with formulation of the aim(s); 2. Implementation of experimental work and data analysis including collection of information from the literature; 3. Writing of a report with correct reference management; 4. Presentation and defence of own work in the shape of poster and an oral presentation; 5. Critical review of a fellow students' written report.

#### Form of teaching

The scientific work, which constitutes an individual assignment of 30 university credits, are carried out under the guidance of a research supervisor in close proximity to ongoing research and/or developmental project.

Language of instruction: English and Swedish

#### Assessment

- - at the final review seminar: defence of the completed project as well as a critical oral review of another course student's project
- - at the final review seminar: presentation of a poster that present the students research project- written report (thesis) in Swedish or English with an abstract in English and a popular scientific summary in Swedish
- - an oral presentation at the department/section/group where project has been carried out
- - main supervisor-assessment of the student's practical achievements and of the student's written report

If the student with a valid leave of absence (disease or force majeure) miss a mandatory elements of the course, the student in consultation with course coordinator and examiner will have the possibility to re-take this part as soon as possible after the regular examination session.

If student has failed twice on the same course elements, and wants a new course examiner before the next examination session, the student should request this by submitting this in writing to the responsible department of the course, and be approved if there are not special causes against doing so (HF section 6 22).

In case that the course has been discontinued or significantly been altered, the student should be guaranteed (in normal situation) at least three examination sessions (including regular examination) during a time period of at least a year based on the earlier planning of course.

# Grades

The grading scale comprises: Pass (G) and Fail (U).

Interim presentation 1: After the completed project and passed final review seminar, 25 credits is reported. Interim presentation 2: After submitted, reviewed and approved thesis, and passed presentation at the section/section/group where the project has been carried out at, 5 credits will be received.

After the interim presentations 1 and 2 have been approved, a final grades (Pass) and 30 credits will be reported. To pass the course the complete thesis should be delivered no later than the final day on following semester, i.e. in 6 months.

An uncompleted report will generate the grade Fail (U).

# **Course evaluation**

An electronically submitted course evaluation, via the course teaching platform, will be collected and analyzed in order to guide the future development of the course. "Kursnämnd" will be held according to the recommendations at pharmacy programme.