LUND UNIVERSITY

LTH
FACULTY OF ENGINEERING

Course syllabus

Farmakologi
Pharmacology

EXTN45, 15 credits, A (Second Cycle)

Valid for: 2023/24
Faculty: Faculty of Engineering, LTH
Decided by: PLED W
Date of Decision: 2023-03-27

General Information

Elective for: N4-nbm
Language of instruction: The course will be given in English on demand

Aim

The aim of the course is to provide knowledge for advanced studies, work and research especially within chemical-biological-biochemical areas.

Learning outcomes

Knowledge and understanding
For a passing grade the student must

- be familiar with basic pharmacological concepts
- be able to explain the mechanisms of action for the most common groups of drugs
- be able to explain the pathobiological basis for the use of the most common groups of drugs
- be informed about regulatory and economically conditions concerning drug development

Competences and skills
For a passing grade the student must

- have theoretical and practical orientation of pharmacological and animal experimental technique
- have been trained in identifying and wording pharmacological tasks
- have been trained in problem solving, evaluation of results and reporting
- be able to interpret and communicate experimental result

Contents

Experimental animal science: This is a fundamental par of the course, and is dealt with both theoretically and practically through studies of environment, animal quality, handling of animals and sampling- and injection techniques. Regulatory aspects and practices of the subject are dealt with.

Experimental pharmacological methods: Exemplified by different surgical techniques (catheterization, suturing, etc) and in vitro experiments with isolated organs. Techniques for registering of ECG, blood pressure etc are demonstrated.

General pharmacology: Under this subject is dealt with receptor theory, structure effect relations, pharmacokinetics, mechanisms of action, signal transduction, dose-response etc.

Special pharmacology: Depending on available teachers, different pharmacological subjects are dealt with, e.g. hormone drugs, PNS- and CNS pharmacology, cardiac- and circulatory drugs, asthma therapy, pharmacognosy etc.

Applied pharmacology: Orientation on principles for developing new drugs, e.g. HTS, clinical trial, GXP etc as well as handling of drugs in the society, structure of the line of business, current debate related to drugs etc.

Extracurricular: Searching literature, handling of databases, writing reports, and oral presentation.

Examination details

Grading scale: UV - (U,G,VG) - (Fail, Pass, Pass with Distinction)
Assessment: Teaching consists of lessons and group discussions on selected topics and problems. Laboratory work consist an important part of the work. Sometimes adequate site visits and demonstrations on industries and departments are performed. During the course, the participants have to perform one or several minor projects, alone or in group. Searching information is trained, as well as identifying and wording of pharmacological problems. Subjects for the projects are chosen by the students in consultation with the teacher. All elements except the lectures are compulsory. Assessment, oral or written, is performed partly continuously during the course, and partly as a written examination at the end of the course. Students who fail the ordinary tests will have an opportunity to take another test in close proximity to the ordinary test. To be awarded a Pass on the whole course the students shall have passed the tests, have acceptable lab reports, practical reports and hand-ins and to have actively participated in all compulsory course elements. The final grade for the course is determined by the aggregated results of the different parts of the examination.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Parts
Code: 0118. **Name:** Theory.
Credits: 10. **Grading scale:** UV. **Assessment:** Written exam.
Code: 0218. **Name:** Literature Assignments and Seminars.
Credits: 3. **Grading scale:** UV. **Assessment:** Approved literature assignments and seminars.
Code: 0318. **Name:** Laboratory Work.
Credits: 2. **Grading scale:** UG. **Assessment:** Approved laboratory work.

Admission

Admission requirements:

- EXTA70 Biology of the Cell
- EXTG50 Human Physiology

The number of participants is limited to: 6
Selection: Credits awarded or credited within the study programme.Priority is given to students enrolled on programmes that include the course in their curriculum.
The course overlaps following course/s: TEK157

Reading list

- According to a list established by the department, available at least eight weeks before the start of the course, see the web-page for Undergraduate Studies in Biology.

Contact and other information

Course coordinator: Bodil Sjögreen, bodil.sjogreen@biol.lu.se
Course homepage: https://www.biologi.lu.se/utbildning/grund-och-avancerad-utbildning/kurser/kurser-avancerad-niva/biologiska-kurser-pa-avancerad-niva-for-teknologer
Further information: The course is to be studied together with BIOR14, which is given by the Department of Biology. Does not follow the study period structure.