Course syllabus for

Laboratory Animal Science in Theory and Practice, 4.5 credits

Teoretisk och praktisk försöksdjursvetenskap, 4.5 hp
This course has been cancelled, for further information see Transitional provisions in the last version of the syllabus.
Please note that the course syllabus is available in the following versions:
Spring2017 , Spring2019 , Spring2020 , Spring2021

Course code	4BI103
Course name	Laboratory Animal Science in Theory and Practice
Credits	4.5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Biomedicine
Level	AV - Second cycle
Grading scale	Pass with distinction, Pass, Fail
Department	Comparative Medicine
Decided by	Programme Committee 7
Decision date	2016-11-03
Course syllabus valid from	Spring 2017

Specific entry requirements

A Bachelor’s degree or a professional degree worth at least 180 credits in biomedicine, biotechnology, cellular and molecular biology or medicine. English language skills equivalent to English B at Swedish upper secondary school.

Objectives

Upon completion of the course the student have knowledege of how to carry out experiments on mice according to the EU Directive (2010/63 EU) implemented in Swedish Legislation (L150).

Upon completion of the course, the student should be able to:

- describe the requirements of Swedish legislation concerning scientific use of animals,
- identify ethical issues in human-animal interaction, including replacement, reduction, refinement, and humane endpoints when animals are used for scientific purposes,
- describe species-specific basic biology (anatomy, physiology, nutrition), breeding and genetics including the basis of genetically modified mice,
- describe normal behavior of rodents and lagomorphs, handling, husbandry needs, and enrichment,

- describe signs of discomfort, pain, suffering, and distress in rodents and lagomorphs,
- describe methods of anesthesia, analgesia, pain relief, injections, sampling, and euthanasia for rodents and lagomorphs,
- describe the basis of disease control with respect to rodents and lagomorphs and how to implement hygiene in animal housing and experimental work.
- analyze scientific studies, based on animal models, with respect to ethical aspects.

- plan an animal experiment according to legislation and ethics.

Content

The content of this course is composed to enable the participants to know the Swedish Legislation (Directive 2010/63 EU) regarding the use of animals for scientific purposes. It contains web-based lectures on the requirements of Swedish legislation concerning scientific use of animals, ethical issues, species-specific basic biology, normal behavior of rodents and lagomorphs, handling of animals, husbandry needs, and enrichment, signs of discomfort pain and suffering in rodents and lagomorphs, different methodologies, the basis of disease control and how to implement hygiene in animal housing and experimental work.

Additionally, students will perform a written analysis of ethical aspects of scientific publications involving animal models (an individual project) and they will design a research protocol (a group project) for an animal experiment with the structure of an ethical application, which is presented orally.

The course is divided into three parts:

Laboratory animal science in theory, 1.5 hp A theoretical web-based part. **Individual project, 1.5 hp** Analysis of ethical aspects in scientific publications based on animal models. **Project work, 1.5 hp** A protocol for an animal research project is prepared in smaller groups and presented orally by the team.

Teaching methods

Lectures, group assignments and individual project .

Examination

Laboratory animal science in theory (1.5 credits). The examination consists of a written examination Graded Fail/Pass/Pass with distinction.

Individual project (1.5 credits). The examination consists of a written report . Graded Fail/Pass.

Project work (1.5 credits). The examination consists of oral presentation and discussion/opposition. Graded Fail/Pass

The course grade is based on part Laboratory animal science in theory. To pass the course the grade pass is required on all parts.

Compulsory participation
Taking active part in the group project work (with attendance on presentation and opposition) 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 for respective part 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.

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.

Course evaluation will be carried out in accordance with the guidelines established by the Board of Higher Education.

Oral evaluation in the form of course council meetings will be carried out during the course.

Literature and other teaching aids

Recommended literature

Specific material referred to during the course forms the course literature.