Department of Biology Education

Stockholm University

Syllabus

for course at first level

Cellular Toxicology
Cellulär toxikologi

15.0 Higher Education Credits
15.0 ECTS credits

Course code:	BL4013
Valid from:	Autumn 2010
Date of approval:	2010-03-15
Department	Department of Biology Education
Main field:	Biology
Specialisation:	G2F - First cycle, has at least 60 credits in first-cycle course/s as entry requirements

Decision

This syllabus has been approved by the Board of the Faculty of Science at Stockholm University.

Prerequisites and special admittance requirements

Admittance to the course requires knowledge equivalent to 30 credits in Chemistry and Cell and Molecular Biology 30 credits. (Three credits corresponds to approximately two weeks full-time studies).

Course structure

Examination code	Name	Higher Education Credits
4013	Cellular Toxicology	15

Course content

The course concerns toxicology from a biological viewpoint. During the course, effects and mechanisms of toxicity of different agents in organisms, including humans, will be described in detail.
The following areas within the field of toxicology will be addressed:
Introduction to toxicology. Poisonous mechanisms in organs, cells and organelles as well as on the molecular level. Basic terminology and history, extrapolation from cellular models to organisms, toxico-kinetics, neurotoxicology, immunotoxicology, organ specific toxicity, genetic toxicology, cellular and subcellular model systems and risk evaluation. Occurrence of toxic compounds in our ambient environment together with factors in food which might modulate the effect of these substances. Regulation and legislation for use and handling of poisonous compounds.

Learning outcomes

It is expected that the student after taking the course will be able to:
• describe the consequences of exposure to toxins on different levels in an organism; the individual as a whole, different organs, cells of various types, organelles, and molecules, with an emphasis on cellular effects
• use methods important in toxicological research based on cell cultures
• search, find and understand relevant scientific literature in the field

Education

The education consists of lectures, laboratory exercises, seminars and study visits.
Participation in laboratory exercises, study visits, seminars and group education associated with this is

compulsory. An examiner may rule that a student is not obliged to participate in certain compulsory education if there are special grounds for this after consultation with the relevant teacher.

Forms of examination

a. Examination for the course is in the following manner: measurement of knowledge takes place through: Written and/or oral examination

b. Grading is carried out according to a 7-point scale related to learning objectives:
A = Excellent
B = Very Good
C = Good
D = Satisfactory
E = Sufficient
Fx = Fail
F = Fail

c. Grading criteria for the course will be distributed at the start of the course.

d. A minimum grade of E is required to pass the course, together with:
•approved laboratory exercises, approved written and oral presentations
•participation in all compulsory education

e. Students who fail to achieve a pass grade in an ordinary examination have the right to take at least further four examinations, as long as the course is given. The term “examination” here is used to denote also other compulsory elements of the course. Students who have achieved a pass grade on an examination may not retake this examination in order to attempt to achieve a higher grade. Students who have failed to reach a pass grade on two occasions have the right to request that a different teacher be appointed to set the grade of the course. A request for such appointment must be sent to the departmental board.

Interim

Students may request that the examination is carried out in accordance with this syllabus even after it has ceased to apply. This right is limited, however, to a maximum of three occasions during a two-year-period after the end of giving the course. A request for such examination must be sent to the departmental board.

Limitations

The course can not be included in a degree together with the courses Genetic Toxicology 5 p (BI3930), Cellular and Genetic Toxikology 10 p (BI3900), Cellular and Genetic Toxikology 15 hp (BL7005)and Toxicology 20 p (BI3969) or the equivalent.

Misc

The course is a component of the Bachelor's Programmes in Biology and Molecular Biology, and it can also be taken as an individual course.

Required reading

Course literature is decided by the departmental board and is described in an appendix to the syllabus.