

BIOR21, Biology: Toxicology, 15 credits

Biologi: Toxikologi, 15 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus is an old version, approved by Study programmes board, Faculty of Science on 2007-04-12 and was valid from 2007-07-01, autumn semester 2007.

General Information

The course is an optional second-cycle course for a degree of Bachelor or Master of Science in Biology and Molecular Biology. The language of instruction is English.

Language of instruction: English and Swedish

<i>Main field of studies</i>	<i>Depth of study relative to the degree requirements</i>
Biology	A1N, Second cycle, has only first-cycle course/s as entry requirements
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Molecular Biology	A1N, Second cycle, has only first-cycle course/s as entry requirements
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Learning outcomes

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

- understand fundamental concepts of toxicology
- explain toxicokinetics and biotransformation/bioactivation
- explain how toxic substances can exercise their effect at molecular, cellular, organ, and organism level
- understand toxicological working methodology, mainly in vitro techniques
- communicate orally and in writing
- master knowledge in toxicology for continued studies and work

Course content

Basic knowledge in toxicology. Uptake, distribution, and secretion of foreign substances (toxicokinetics). The molecular initiating event and adverse outcome pathway including toxicity at molecular, cellular, tissue, organ, and organism levels (toxicodynamics). Metabolism of foreign substances (biotransformation/bioactivation). Immunotoxicology. Neurotoxicology. Genotoxicology. Reproductive toxicology. Legislation. Toxicological methodology with focus on in vitro techniques.

Course design

The teaching consists of lectures, group work, laboratory sessions and study visits. The laboratory sessions are presented in writing and graded. An individual literature study is presented orally and in writing. Participation in group work, laboratory sessions and study visits, and thereby other integrated teaching, is compulsory.

Assessment

A written examination, where the grades from the laboratory sessions are included, takes place at the end of the course. For students who have not passed the regular examination, an additional examination in close connection to this is offered.

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

Grades

Marking scale: Fail, Pass, Pass with distinction.

To pass the entire course, approved examination, approved laboratory reports, approved project report, and participation in all compulsory components, are required.

The final grade is decided through a weighing of the results of the examination and the assessment of laboratory reports.

Entry requirements

For admission to the course, English B/English 6 and 90 credits of scientific studies including knowledge corresponding to MOB101 Cell Biology 15 credits, BIO006 Genetics and Microbiology 15 credits, BIO577 Human Physiology 15 credits, and Chemistry 15 credits, are required.

Further information

The course may not be included in a degree together with BIO633 Toxicology 15 credits.

Subcourses in BIOR21, Biology: Toxicology

Applies from V14

- 0711 Theory, 10,0 hp
Grading scale: Fail, Pass, Pass with distinction
- 0712 Laboratory Work, 5,0 hp
Grading scale: Fail, Pass

Applies from V08

- 0701 Toxicology, 15,0 hp
Grading scale: Fail, Pass, Pass with distinction