

Syllabus for Toxicology, 15 higher education credits

1. Basic information

The syllabus was approved by the Education Committee of the Faculty of Science 12 April 2007. The syllabus comes into effect on 1 July 2007. The course is at second-cycle level.

2. General information

The course is part of the main fields of Biology or Molecular Biology at the Faculty of Science. It is an optional second-cycle course for a degree of Bachelor or Master of Science in Biology or Molecular Biology. The course is also offered as a single subject course. The language of instruction may be English

3. Learning outcomes

On completion of the course the student shall have acquired the following knowledge and understanding:

- knowledge of basic concepts of toxicology
- knowledge of toxicokinetics and biotransformation/bioactivation
- knowledge of how toxic compounds act at the molecular, cellular, organ and organism levels
- knowledge of toxicological methods, primarily *in vitro* techniques
- training in writing and oral communication
- a foundation for further studies and professional activities

4. Course content

General toxicological knowledge. Uptake, distribution and excretion of xenobiotic compounds (toxicokinetics). Xenobiotic action mechanisms on molecular, cellular, tissue, organ and organism levels (toxicodynamics). Turnover of xenobiotics (biotransformation/bioactivation). Immunotoxicology. Neurotoxicology. Genotoxicology. Reproductive toxicology. Legislation. Methods for studying toxicology, with an emphasis on *in vitro* toxicology.

5. Teaching and assessment

Teaching consists of lectures, group exercises, practicals and site visits. Practical reports are presented as written reports, which are then graded. An individual literature study is presented orally and in writing. Practical, seminars and site visits and the course elements associated with these are compulsory.

Assessment is carried out through written examination at the end of the course. Graded practical reports are included in the assessment. A re-sit examination is offered soon after the examination to students who do not pass.

6. Grades

Students are awarded one of the following grades: Pass with Distinction, Pass or Fail.

To be awarded Pass on the whole course the student must pass the examination, pass the practical reports and participate in all compulsory course components.

The final grade for the course is determined by the overall results of the written examination and practical reports.

7. Admission requirements

To be eligible for the course applicants must have 90 higher education credits in Science subjects, including knowledge equivalent to MOB101 Cell Biology 10 credits, BIO006 Genetics and Microbiology 10 credits, BIO577 Human Physiology 10 credits and Chemistry 10 credits.

8. Course literature

In accordance with an approved literature list, which will be available on the department website (<http://www.biol.lu.se/biologi>) at least five weeks before the start of the course.

9. Further information

The course cannot be credited as part of a degree that includes BIO633 Toxicology 10 credits.