



**Karolinska
Institutet**

Course syllabus for

Health Risk Assessment, 9 credits

Hälsoriskbedömning, 9 hp

This course syllabus is valid from spring 2022.

Please note that the course syllabus is available in the following versions:

Spring2019 , Spring2020 , Spring2022 , Spring2024 , Spring2025

Course code	4TX031
Course name	Health Risk Assessment
Credits	9 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Toxicology
Level	AV - Second cycle
Grading scale	Pass with distinction, Pass, Fail
Department	Institute of Environmental Medicine
Decided by	Utbildningsnämnden IMM
Decision date	2018-10-22
Revised by	Education committee IMM
Last revision	2021-10-04
Course syllabus valid from	Spring 2022

Specific entry requirements

At least the grade Pass for all courses on semester 1 and for the course Laboratory animal sciences in theory and practice, within the Master

Objectives

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

Regarding knowledge and understanding

- describe and explain the basic concepts and principles within health risk assessment of chemical substances,
- explain the value and the usefulness of different methods (in silico, in vitro, in vivo, epidemiological) for evaluating toxicity and health risks, the limitations as well as the development needs of these methods, and how lack of data as well as uncertainties are handled in risk assessment,
- describe and explain how risk assessments are carried out within different regulatory areas, in a national, European and global perspective.

Regarding competence and skills

- in groups make a complete risk assessment, and present and discuss this assessment, both orally and in written format,
- discuss the scientific, societal and ethical prerequisites and limitations that are associated with a risk assessment, as well as which factors that influence a risk assessment,
- describe the most important information sources in toxicology and health risk assessment, and be able to critically review both risk assessments and individual studies,
- understand the role of risk communication in risk analysis, and be able to present and discuss issues related to health risk assessment in a dialogue with different groups.

Content

The course comprises fundamental concepts, principles and methods, and conditions for risk assessment, regulatory applications, examples of complex risk assessments, conditions for risk communication and training in practical risk assessment. The course also highlights the role of risk assessment in promoting sustainable development in a global perspective, in which communication to the public and public authorities plays an important part.

Teaching methods

The course contains lectures, practical exercises, group assignments, discussions and study visit.

Examination

The examination consists of a written report and oral presentation (Fail/Pass), giving oral feedback on a group assignment (Fail/Pass), and a written examination (Fail/Pass/Pass with distinction).

The course grade is based on the results of the written examination.

Compulsory participation

All group exercises, study visits, oral and written presentation and critical oral review are 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. Absence from a compulsory activity may result in that the student cannot compensate the absence until the next time the course is given.

If there are special grounds, or a need for adaptation for a student with a disability, the examiner may decide to deviate from the syllabus's regulations on the examination form, the number of examination opportunities, the possibility of supplementation or exemptions from the compulsory section/s of the course etc. Content and learning outcomes as well as the level of expected skills, knowledge and abilities may not be changed, removed or reduced.

Transitional provisions

After each course, there will be at least 6 occasions for examination within a 2-year period after 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

Mandatory literature

Handouts and other assigned literature

Recommended literature

Hayes, A. Wallace; Kruger, Claire L.

Hayes' principles and methods of toxicology

6. ed. : - xxvi, 2157 p.

ISBN:9781842145364 (hardcover : alk. paper) LIBRIS-ID:16954170

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