



Course syllabus

Faculty of Health and Life Sciences

Department of Biology and Environmental Science

4MX005 Miljöriskanalys, 15 högskolepoäng

Environmental Risk Analysis, 15 credits

Main field of study

Environmental Science

Subject Group

Environmental Science

Level of classification

Second Level

Progression

A1N

Date of Ratification

Approved 2009-10-22

Revised 2013-12-17 by Faculty of Health and Life Sciences.

The course syllabus is valid from autumn semester 2014

Prerequisites

- Natural science or technical university education, of at least 90 ECTS, including Chemistry 15 ECTS.
- English B or equivalent

Objectives

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

- critically evaluate risk and decision problems within the environmental field;
- structurally and independently address these problems;
- choose and apply quantitative methods in risk assessment, and
- solve analytical problems within research as well as in environmental and health protection, independently and in cooperation.

Content

- Risk and decision problems within the environmental field.
- Methods used for hazard identification.
- Theory of probability and statistics.
- Hazard characterization, dose-response relationship.
- Exposure assessment and exposure models.
- Variability and uncertainty in risk assessment models.
- Risk characterization, including Monte Carlo methods.
- Risk communication and risk management.

Type of Instruction

The teaching consists of presentations, reading recommendations regarding the course literature, individual problem solving, computer laboratory work and interactive group discussions. Participation in group discussions is mandatory.

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The course participants need access to Internet.

Examination

The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).

Examination is performed through active participation in group discussions, written tests, literature summaries and written assignments to be submitted during the course.

Examination criteria to pass the course are defined by the objectives (see above).

Course Evaluation

Upon completion, the course will be evaluated by filling out an evaluation form. The results of the evaluations are turned into a summary report that will be kept in the administrative archives of the department. The outcome of the evaluation of the previous year, as well as possible measures taken, will be discussed with the educational program organiser, as well as with incoming students at the start of the next course.

Required Reading and Additional Study Material

Obligatory

Burgman, M. 2005. Risks and decisions for conservation and environmental management. Cambridge University Press. ISBN 0521543010.

Kammen, D.M., Hassenzahl, D.M. 2001. Should we risk it? Princeton University Press, 2001. ISBN 0691074577.

Reference

Paustenbach, D. J. (red). 2002. Human and ecological risk assessment. Theory and practice. Wiley. ISBN 0471147478.