Linnæus University

Jnr: 2014/3397-3.1.2

Course syllabus

Faculty of Health and Life Sciences
Department of Biology and Environmental Science

4MX001 Miljöriskanalys II, 7,5 högskolepoäng
Environmental Risk Analysis II, 7.5 credits

Main field of study
Environmental Science

Subject Group
Environmental Science

Level of classification
Second Level

Progression
A1F

Date of Ratification
Approved 2009-05-12
Revised 2014-10-14 by Faculty of Health and Life Sciences. Revised type of instruction.
The course syllabus is valid from spring semester 2015

Prerequisites
Environmental Risk Analysis 15 ECTS (A1F) or corresponding.

Objectives
Upon completion of the course, the student will be able to:
- critically analyse issues related to exposure to chemical substances;
- structurally perform exposure assessments, independently and in cooperation, and
- choose and apply probability based methods for exposure assessment and risk characterization.

Content
- Models and exposure assessments.
- Exposure data and exposure factors.
- Characterization of uncertainty and variability.
- Methods for probabilistic exposure assessment.
- Data analysis and selection of probability distributions.
- Presentation and interpretation of results and sensitivity analysis.
- Generic and site-specific guideline values for contaminated land.

Type of Instruction
The course is offered in full- or part-time and is web-based with one or two obligatory meetings in Kalmar. The course participants need access to Internet.

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

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 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 administrational 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

EPA 2001. Risk assessment guidance for Superfund: Volume III Part
A, Process for conducting probabilistic risk assessment. U.S. Environmental Protection Agency. Rapport EPA 540R02002, 219 s.

Cullen, A. C., Frey, H. C. 1999. Probabilistic techniques in exposure assessment: A handbook for dealing with variability and uncertainty in models and inputs. Plenum Publishing Corporation. ISBN 0306459574. 352 s.

WHO 2005. Principles of characterizing and applying human exposure models. World Health Organization. ISBN 9241563117, 76 s.

Reference

EPA 1992. Guidelines for exposure assessment. U.S. Environmental Protection Agency. Rapport FRL41295. 164 s.