

MVEC12, Environmental Science: Risk Analysis in Environment and Public Health, 15 credits

*Miljövetenskap: Riskanalys inom natur, miljö och hälsa, 15
högskolepoäng*
First Cycle / Grundnivå

Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2007-03-01 to be valid from 2007-07-01, autumn semester 2007.

General Information

This is an elective first cycle course.

Language of instruction: English and Swedish

Main field of studies

Environmental Science

*Depth of study relative to the degree
requirements*

G2F, First cycle, has at least 60 credits in
first-cycle course/s as entry requirements

Learning outcomes

The aim of the course is that students, on its completion, shall have attained the following knowledge and skills:

- Basic knowledge of risk and vulnerability assessments with regard to, for example, exposure to chemicals, extinction threats to species, foreign species, epidemiology
- Ability to manage and work with the most common risk management models used for natural, environmental and health risks Ability to assess risks associated with foreign species and gene-modified organisms with regard to biological aspects such as conservation biology
- Ability to use sensitivity analysis for different applications in risk assessments Ability to apply knowledge to assess how risks caused by anthropogenic emissions are related to limits and environmental quality standards

- Ability to assess and judge risks caused by anthropogenic emissions into earth, air and water, and risks to human health caused by anthropogenic emissions
- Ability to present and communicate risks and risk assessments within a number of different applications Ability to use literature critically and evaluate risk modelling for assessments of environmental and health risks

Course content

- Risk analysis: problem formulation, hazard identification, statistical and mathematical modelling, uncertainty analysis and sensitivity analysis. For example in subareas: conservation biology, invasive foreign species, gene-modified organisms, transport processes of substances in earth, air and water, exposure and its impact on human health, epidemiology and toxicokinetics.
- Risk assessment: assessments of risk analyses, identification of risks (environment, nature, man), vulnerability analyses. Risk assessments are executed in the form of case studies.
- Risk management: prevent risks, propose limits, societal risk management
- Risk communication: communication training in the communication and management of risks in risk assessments, risk perception

Course design

The teaching consists of lectures, exercises and project work.

Assessment

The assessment is based on one or more written exams during the course. Students who have not passed the regular exam will be offered a re-sit opportunity shortly thereafter.

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.

For a Pass on the course as a whole, students must have passed the exam, exercises and project work.

Entry requirements

To be admitted to the course, students must have 75 credits from science studies and 4.5 credits in statistics.

Further information

The course may not be included in degree together with MVE201, Risk Analysis in Environment and Public Health.

Subcourses in MVEC12, Environmental Science: Risk Analysis in Environment and Public Health

Applies from H07

0701 Risk Analysis in Environment and Public Health, 15,0 hp
Grading scale: Fail, Pass, Pass with distinction