



AE2103 Environmental Aquatic Chemistry 7.5 credits

Environmental Aquatic Chemistry

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for AE2103 valid from Autumn 2010

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

The Built Environment

Specific prerequisites

180 credits of academic studies including at least 35 credits in mathematics, physics, chemistry and geosciences. AE1105 Environmental Soil Chemistry or an equivalent course focusing on the geochemistry of soils and waters. Documented proficiency in English B or equivalent.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After completion of the course, the students should be able to:

- Estimate the environmental fate of pollutants from basic information and by applying geochemical models
- Interpret analytical measurements of metals and organic pollutants in different media.
- Interpret ecotoxicological information for contaminants
- Understand the strategies of tiered risk assessments
- Apply today's risk assessment systems for contaminated soils and waters, although with a critical mind
- Understand the principles of some common and successful soil remediation methods.

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Course contents

Geochemistry of contaminants in soils, sediments, groundwaters and surface waters. Methods for chemical analysis of contaminants in soils and waters. Basic ecotoxicology. Principles of environmental risk assessment, and application of the Swedish system for risk assessment of contaminated soils. Remediation technologies.

Course literature

Gustafsson, J.P., Jacks, G., Simonsson, M. & Nilsson, I. Soil and water chemistry.

Various reports from the Swedish Environmental Protection Agency.

Complementary literature to be announced on the webpage before the start of the course.

Examination

- ÖVN1 - Assignment, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 4.5 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

Other requirements for final grade

Written examination (TEN1; 4.5 cr)

Report from project and laboratory course (ÖVN1; 3 cr).

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.