AF1768 Environmental Science and Work Science 7.5 credits

Miljö- och arbetsvetenskap

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

Establishment

The official course syllabus is valid from spring semester 2027 as decided by the Director of First and Second Cycle Education. Decision date: 2026-10-06.

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Intended learning outcomes

After passing the course, the student should be able to:

- describe current environmental problems, environmental technologies, and legislative issues
- describe environmental impacts and risks associated with construction

- analyze the environmental impact of buildings using tools such as life cycle assessment (LCA) and environmental certification systems (e.g., BREEAM, LEED, and Miljöbyggnad)
- describe the environmental impact of the construction sector and how it can be minimized
- comply with occupational health and safety regulations on a construction site
- establish an occupational health and safety plan for a small construction project
- describe the systematic workplace environment management on a construction site.

Course contents

- Environmental risks in construction and real estate operations.
- Resource issues in the construction sector.
- Waste management and recycling principles.
- Priorities in the company's environmental work, environmental management, and life cycle assessments.
- Environmental legislation and environmental impact assessments.
- Environmental product declarations (EPD).
- The Work Environment Act.
- The client's and contractor's responsibilities regarding construction work environment coordinators.
- Physical work environment: strain, noise, lighting, chemical health risks, etc.
- Work tools, scaffolding, protective equipment, etc.
- Sustainability within the construction and real estate sector, with consideration for environmental impact, resource use, and a life cycle perspective.

Examination

- ÖVN1 - Excercises, 5.0 credits, grading scale: P, F
- TEN1 - Written exam, 2.5 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.

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.