AF1720 Environmental Science and Work Science 7.5 credits

Miljö- och arbetsvetenskap

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

Establishment

Course syllabus for AF1720 valid from Autumn 2012

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Students in year 2 of the Bachelor of Science in Engineering programmes Constructional Engineering and Design or Engineering and Economics specialising in Constructional Engineering and Design.

Language of instruction

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

Intended learning outcomes

Upon completion of the course, the student shall:

- Have sufficient knowledge on current environmental issues, green technologies and legislative questions to be able to develop and maintain products and processes in an ecologically sustainable manner and handle procurements and contact with authorities using technically and ethically sustainable methods
- Have enough knowledge on occupational injury prevention, both to self and others, that they can prevent occupational injury by: using ergonomic principles to correctly design worksites, applying current ergonomic knowledge to design work routines and methods, and being able to measure and document work environment faults and actively participate in improving the work environment quality at their future work place
- Be able to prepare a health and safety plan for a construction project
- Know the basic chemical properties of the most common building materials and be able to assess the suitability and risks when using structural components composed of several materials

Course contents

- Environmental effects related to construction and real estate management. Sustainable building technology.
- Resources. Waste handling and recycling principles.
- Holistic approach to environmental work procedures
- Building material science with focus on chemistry
- Priorities in company environmental work, tools, environmental management systems, life cycle assessments
- Urban control measures, environmental legislation, environmental-impact assessments
- Legislation and regulations for working environment
- Health and safety plans. Responsibilities for developers and building contractors.
- Physical work environment: load, noise, lighting, chemical health risks, etc
- Tools, construction scaffolding and protective apparatus
- Ergonomic workplace design
- Leadership in work environment issues

Disposition

Course work is composed of lectures, exercises, mandatory laboratory work, work presentations, seminars, and independent study. Attendance is mandatory at exercises, laboratory work and such.

Course literature

S Hebert, "Miljöfrågan inom byggsektorn"
Arbetsmiljöverkets hemsida, www.av.se

Examination

- ÖVNA - Exercises, 3.0 credits, grading scale: P, F
- TENA - 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 (TENA, 4.5 credits), grade scale A-F
Approved exercises (ÖVNA, 3.0 credits)

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.