MJ283V Environmental Technology 7.5 credits

Miljöskyddsteknik

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

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

Establishment

Course syllabus for MJ283V valid from Autumn 2009

Grading scale

P, F

Education cycle

Second cycle

Main field of study

Specific prerequisites

Language of instruction

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

Intended learning outcomes

After passed course the student should be able to:

- Propose and motivate strategies and actions for different environmental problems, based on a system analysis perspective.
- Describe and explain process **internal** solutions to minimize air pollution emissions (through flue gases and evaporation of VOC) and emissions through waste water discharges.
- Describe and explain the function of different process **external** methods that can be used in order to minimize pollutions to air or water.
- Describe different strategies and methods for handling of wastes from municipalities and industrial production processes.
- In a written report / case study describe the environmental technical solutions used by a company in order to solve or minimize pollutions and production of waste and also propose and motivate the choice of different alternative environmental technical solutions.

Course contents

Strategies for a better environment: Cleaner production strategies (process changes, raw materials changes etc.), process external solutions, product changes and other. Advantages and disadvantages using different strategies.

Air pollution control and gas cleaning technology. Process internal solutions and external solutions in order to minimize air pollutions (both gaseous compounds and particles). Two main applications will be discussed – emissions of VOC connected to handling of organic solvents and emissions of flue gases from energy production.

Municipal and industrial waste water treatment. Process internal solutions and external solutions in order to minimize water pollutions. A number of common applications will be discussed.

Industrial waste treatment. Process internal solutions to minimize waste production. Waste treatment methods especially handling of hazardous waste.

Examination

- ÖVN1 - Exercise, 1.0 credits, grading scale: P, F
- ÖVN2 - Exercise, 1.5 credits, grading scale: P, F
- ÖVN3 - Exercise, 1.5 credits, grading scale: P, F
- ÖVN4 - Exercise, 3.5 credits, grading scale: P, 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.

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.