



MH2045 Energy and Materials Sustainability 6.0 credits

Energi- och materialhållbarhet

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

Establishment

Course syllabus for MH2045 valid from Autumn 2010

Grading scale

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

Education cycle

Second cycle

Main field of study

Materials Science, Materials Science and Engineering

Specific prerequisites

A BSc degree

Language of instruction

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

Intended learning outcomes

The course aims at providing the students with a clear engineering knowledge about the energy and environmental issues for the sustainability development in the process industry focusing on the ability to quantify key parameters such as energy and mass balances, life cycle analysis for an energy-intensive industrial system, and the knowledge about their controlling mechanisms

Course contents

The course should give knowledge and understanding for how industrial processes and products affect the environment as well as the legal aspects, and strategies for minimizing the effect on the environment.

Contents specially focus on possibilities and limitation for lowering the waste from atmosphere and water, using of energy, life cycle analysis of energy and materials during the process industry.

Disposition

Lectures 20 h

Tutorials 24h

Lab work: 6 h (1-day laboratory, mass and heat balance basing on fossil fuel furnace)

Field trip

Course literature

Will be announced during the course

Distributed material.

Examination

- PRO1 - Project Assignment, 2.0 credits, grading scale: A, B, C, D, E, FX, F
- NÄR1 - Presence, 2.0 credits, grading scale: P, F
- LAB1 - Laboration, 2.0 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.