MJ1507 Sustainable Development for Engineers 6.0 credits

Hållbar utveckling för ingenjörer

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

Establishment

Course syllabus for MJ1507 valid from Spring 2010

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Basic requirements + 30hp

Language of instruction

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

Intended learning outcomes

The overall aim with the course is to give an overview over Sustainable Development and its application in the profession of the engineer. Focus lays on the threats and possibilities our lifestyle and technical development has on Sustainable Development.

After the course the student should be able to:

- Describe and analyze the concept of Sustainable Development from ecological, social and economical aspects.
- Describe the most important global and national environmental threats and their impact on the ecosystems as well as explain the connection between the environmental threats and our life style.
- Suggest and motivate strategies and measures that can be used by industry and society in order to reduce the environmental impact from a product or an enterprise.
- Indicate and describe means of control and tools that can be used by industry and society in order to reduce the environmental impact from a product or an enterprise.
- Reflect upon the role of the engineer for a Sustainable Development.
- Search information from scientific literature and summarize it in a written report as well as making a critical study of another groups report.

Course contents

- Sustainable Development: Ecological prerequisites, definitions and concepts, practical application.
- Threats towards and measures for a Sustainable Development coupled to case studies, the role of the engineer and the individual life style.
- Global and national environmental threats (climate change, Baltic Sea, environmental toxins).
- Consumption society (consumption patterns, rebound effect, ecological footprints, usage of resources, transport, energy, waste).
- The role of technology for a sustainable society (strategies, sustainable energy systems, product design, IPP).
- Economical and legislative means of control and tools (Swedish environmental goals, Swedish Environmental Code, emission trading, ISO 14 000).

Disposition

The course is based on lectures and a larger project consisting of owns work, seminars and a written and oral report.

Course literature

Will be notified at the course start

Examination

- PRO1 - Project Work, 3.0 credits, grading scale: P, F
- TEN1 - Examination, 3.0 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.