MJ2691 Technology and Sustainable Development 6.0 credits

Teknik och hållbar utveckling

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 MJ2691 valid from Autumn 2011

Grading scale

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

Education cycle

Second cycle

Main field of study

Environmental Engineering

Specific prerequisites

At least 100 academic credits (ECTS) in a program of engineering or natural science or course MJ1502 or MJ2611 or MJ2652 or MJ2651 or corresponding knowledge including documented proficiency in english B or equivalent.

Language of instruction

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

Intended learning outcomes

The overall objective in this course is to give an introduction to the field of sustainable technologies.

After concluding this course the student should be able to:

- Explain what constitutes a sustainable technology.
- Describe and discuss the role of technology in society.
- Identify and analyze front end technologies in different technological spheres and analyze technological improvements in accordance to the sustainability aspects.
- Analyze the driving forces behind technological change.
- Search for scientific literature in the subject areas of the course from the Internet and in libraries and use it as reference materials for a written report / case study.
- In a written report / case study analyze and discuss different subjects connected to “sustainable technologies” in the areas of energy and transportation, water and sanitation in both the industrialized and the developing world.
- Show references and bibliography in a written report / case study.
- Give an oral presentation to a written case study.

Course contents

This course is to a large extent problem- and project oriented. In this course we discuss different concepts in changing our material and energy requirement. In lectures sustainable technologies are being introduced. Products as well as systems solutions from a sustainable technology perspective are described and analyzed. One individual and one group assignment are part of the examination, where the student reviews different sustainable technological solutions from both a product and a systems perspective.

Disposition

Introductory lectures, one home assignment and one case study seminar are included.

Course literature

The literature will be presented in connection with the start of the course.

Examination

- ÖVN1 - Exercise, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN2 - Exercise, 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.

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.