AL2191 Technology and Sustainable Development 7.5 credits

Teknik och hållbar utveckling

Course syllabus for AL2191 valid from Autumn 13

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

Grading scale:
Education cycle: Second cycle
Main field of study: Environmental Engineering, Mechanical Engineering

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.
- Compare sustainability criteria for different products.
- 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 main content

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.

Language of instruction

Language of instruction is specified in the course offering information in the course and programme directory.

Eligibility

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.

Literature

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

Examination