Project Course Advanced - Technology for Sustainable Development

Programme course

12 credits

Projektkurs avancerad - Teknik för hållbar utveckling

TMPE09

Valid from: 2020 Spring semester

Determined by
Board of Studies for Mechanical Engineering and Design

Date determined
2019-09-23

Offered for the last time
Autumn semester 2023

Replaced by
TMPM11

Main field of study
Energy and Environmental Engineering

Course level
Second cycle

Advancement level
A1X

Course offered for
- Energy-Environment-Management M Sc in Engineering

Entry requirements
Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites
Thermodynamics, Engineering materials, Product development, Sustainable materials selection, Heat transfer, New materials.

Intended learning outcomes
The course aims to give knowledge and understanding concerning setup, planning, implementation and presentation regarding project work within the areas energy, materials science, thermodynamics and/or heat transfer.

- Identify, choose and apply relevant theoretical areas for a situation specific problem.
- Plan and realize an industrial and/or research related project within the area.
- Systematically integrate the knowledge acquired during their studies to run a project within the area.
- Utilize method and subject specific knowledge within the area of engineering materials.
- Analyze and evaluate technical solutions.
- Assimilate the contents of relevant literature and relate their work to it.

Course content

The focus of the project within this course is on the technology that shall contribute to sustainable development. The project work can contain a combination of problem analyses within the areas of materials science, thermodynamics and heat transfer and more advanced calculations of thermodynamic and energy relations. The project can be performed in close collaboration with industry, other local actor or be a part of an ongoing research project within the divisions of Engineering materials or Applied thermodynamics and fluid mechanics. The work is presented in a written report and orally on a seminar. Part of the course is also to perform a written and oral opposition on another project group.

Teaching and working methods

The students are divided in smaller groups to perform their project. The project is run by the students in collaboration with the project owner and the students are expected to take a large responsibility to finalize the project. Since the course runs over the whole semester, a mid-term report should be handed in and presented orally half-way through the project. The project finishes with a written report and oral presentation. With the aim to practice a critical and constructive inspection of investigations and academic reports within the area each group shall review a report written by another group.

Examination

PRA1	Project assignment	12 credits	U, G

Grades

Two-grade scale, U, G

Other information

About teaching and examination language

The teaching language is presented in the Overview tab for each course. The examination language relates to the teaching language as follows:

- If teaching language is Swedish, the course as a whole or in large parts, is taught in Swedish. Please note that although teaching language is Swedish, parts of the course could be given in English. Examination language is Swedish.
- If teaching language is Swedish/English, the course as a whole will be taught in English if students without prior knowledge of the Swedish language participate. Examination language is Swedish or English (depending on teaching language).
- If teaching language is English, the course as a whole is taught in English. Examination language is English.

Other

The course is conducted in a manner where both men's and women's experience and knowledge are made visible and developed.

The planning and implementation of a course should correspond to the course syllabus. The course evaluation should therefore be conducted with the course syllabus as a starting point.

Department

Institutionen för ekonomisk och industriell utveckling

Director of Studies or equivalent

Roland Gårdhagen

Examiner

Roland Gårdhagen

Course website and other links

Education components

Preliminary scheduled hours: 20 h
Recommended self-study hours: 300 h