

Project Course Advanced - Technology for Sustainable Development

Programme course

12 credits

Projektkurs avancerad - Teknik för hållbar utveckling

TMPE06

Valid from: 2017 Spring semester

Determined by

Board of Studies for Mechanical
Engineering and Design

Date determined

2017-01-25

Main field of study

Energy and Environmental Engineering

Course level

Second cycle

Advancement level

A1X

Course offered for

- Energy-Environment-Management

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, 3, 4, 5
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Grades

Four-grade scale, LiU, U, 3, 4, 5

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

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://stydokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.