

Project Course Advanced - Technology for Sustainable Development

Projektkurs avancerad - Teknik för hållbar utveckling
12 credits

Programme course

TMPE09

Valid from: 2023 Spring semester

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| Determined by | Main field of study | |
| Board of Studies for Mechanical Engineering and Design | Energy and Environmental Engineering | |
| Date determined | Course level | Progressive specialisation |
| 2022-08-31 | Second cycle | A1X |
| Revised by | Disciplinary domain | |
| | Technology | |
| Revision date | Subject group | |
| | Energy Technology | |
| Offered first time | Offered for the last time | |
| Autumn semester 2020 | Autumn semester 2023 | |
| Department | Replaced by | |
| Institutionen för ekonomisk och industriell utveckling | TMPM11 | |

Course offered for

- Master of Science in Energy - Environment - Management

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

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| PRA1 | Project assignment | 12 credits | U, G |
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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 could be given in Swedish, or partly in English. Examination language is Swedish, but parts of the examination can be in English.
- If teaching language is “English”, the course as a whole is taught in English. Examination language is English.
- 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.

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.

The course is campus-based at the location specified for the course, unless otherwise stated under “Teaching and working methods”. Please note, in a campus-based course occasional remote sessions could be included.

If special circumstances prevail, the vice-chancellor may in a special decision specify the preconditions for temporary deviations from this course syllabus, and delegate the right to take such decisions.