



MJ148X Degree Project in Energy Systems, Sustainability and Industrial Engineering, first cycle 15.0 credits

Examensarbete i Energisystem, hållbar utveckling och industriell ekonomi, grundnivå

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 MJ148X valid from Spring 2019

Grading scale

P, F

Education cycle

First cycle

Main field of study

Mechanical Engineering

Language of instruction

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

Intended learning outcomes

In addition to the KTH intended learning outcomes common for all degree projects, first cycle, the course specific intended learning outcomes below apply:

After passing the course, the students should be able to:

- formulate problems and apply methodology, in the subject area of energy systems and sustainable development and industrial engineering, to search for and validate solutions.
- identify one's own information needs, independently acquire the knowledge and skills that are needed to solve problems, as well as evaluate the acquired information.
- plan one's own work to reach given objectives.
- reflect on, evaluate and critically discuss one's own scientific results and those of others
- present the degree project work in a written technical report with requirements on structure, content, presentation, formal content style and writing, including an abstract in English with correct use of the terminology of the subject.
- carry out oral presentations with requirements on time-keeping and clear language, performance and illustrations.
- review and give comments on other students' work, and be able to meet corresponding comments his/her own work (critical review)

Course contents

Course is carried out in project form, either individually or in groups of two technology students. Projects deal with energy and sustainability problems that are commonly found in society, with a focus on sustainable solutions and business development. The objective of the project is to integrate technology with requirements on sustainable social, economic, and environmental development.

Teachers in the course provide appropriate projects at the beginning of the course. Projects can be provided by industry or from a research team, but are mainly carried out at KTH. Teachers are also supervisors for projects.

Work should document in the form of a written report. Normally, it is written in Swedish with an abstract in English. It is allowed to write report in English.

Intermediate and final seminars are compulsory components. At the final seminar, the student should, besides orally presenting his/her work, also review on another student's degree project work. Furthermore, written parts of the report should be handed in during the course, with content as agreed with supervisor.

Disposition

XUPP- Examination assignment, 15.0, grading scale: P, F P, F

Specific prerequisites

Of engineering programme established requirements to may start a degree project at basic level. These requirements are found in the programme syllabus.

Specific requirements for degree project in Energy systems, sustainable development and industrial engineering:

MJ1112 Applied Thermodynamics, 9 credits, or the equivalent (completed)

MJ1145 Energy Systems, 7.5 credits, or the equivalent (completed)

MJ1141 Energy Systems and Sustainability, 9 credits, or the equivalent (completed)

Recommended: MJ1401 Heat Transfer, 6 credits, but not compulsory

Course literature

Uppgift om kurslitteratur meddelas i kurs-PM

Examination

- XUPP - Degree project, 15.0 credits, grading scale: P, 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.

The examiner decides, in consultation with KTH's coordinator for disabilities (Funka), about possible adapted examination for students with documented, permanent disabilities. The examiner may permit other examination format for re-examination of individual students.

Other requirements for final grade

Besides the established KTH criteria for passing a first cycle degree project, the course specific requirements are:

Completed project work with agreed deliveries, attendance at compulsory seminars, presentations at these, critical review, and completion of final report

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.