



MJ2502 Industrial Dynamics of Innovation in Combined Energy Systems 6.0 credits

Industriell dynamik för innovation i kombinerade energisystem

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

Establishment

Course syllabus for MJ2502 valid from Autumn 2020

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

- MJ2411 Renewable Energy Technology, 6 credits (or the equivalent course at second cycle level)
- MJ2414 Energy Systems Analysis in an Environmental Context, 6 credits (or the equivalent course at second cycle level)

Language of instruction

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

Intended learning outcomes

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

1. Explain and give examples of how the development of sustainable energy systems mobilises possibilities to technical innovations
2. Discuss and analyse the innovation process through the phases idea, creation, exploration and selection implementation and commercialisation.
3. Analyse state-of-the-art for technology during development to, by means of methods in industrial dynamics, identify possibilities to innovation.

Course contents

The course covers sustainable energy engineering at second cycle level, with a special focus on to identify possibilities to innovation at the development of sustainable energy systems in general and advanced energy combinations in particular.

Here, a specialised analysis of the knowledge situation is used ("state-of-the-art") combined with studies around industrial dynamics to discuss and analyse possibilities to innovation in the area.

The course consists of a few key lectures and seminars carry the main part of the learning process regarding to discuss and analyse.

A project is introduced at the start of the course and runs through the whole course period. Through the projects, the tools that are mentioned above are applied in real cases.

An examination gives another possibility to show the level on knowledge and skills that have been achieved.

The result of the examination together with skills that have been shown through the project constitutes basis for final course grade.

Examination

- PROA - Project, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- TENA - Written exam, 3.0 credits, grading scale: A, B, C, D, E, FX, 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.

If the course is discontinued, students may request to be examined during the following two academic years.

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.