



MJ2410 Energy Management

6.0 credits

Energy Management

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 MJ2410 valid from Spring 2017

Grading scale

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

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

Bachelor of science degree. Preferably with knowledge in Applied Thermodynamics (example MJ1112, 9 ECTS) or corresponding.

Language of instruction

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

Intended learning outcomes

The course aims at broadening the students' abilities to cope with analytic and strategic issues related to energy systems and management through systems thinking and modeling.

The students, after accomplishment of this course, will be able to

- Analyze the energy systems by applying the principles of system thinking
- Model large and complex energy systems methodologically
- Evaluate cost-effectiveness of energy systems by applying proper economic measures
- Describe the principles of environmental and ecological economics
- Explain the important factors to measure the overall sustainability of different energy mixes
- Understand the importance of business model innovation for diffusion of sustainable energy technologies.

Course contents

Main topics that will be covered in the course are:

- System analysis, systems thinking and Energy Systems
- Methods for evaluation of large and complex energy systems and Energy system modeling
- People's understanding about Energy and user behavior
- Energy Economics
- Energy portfolio sustainability management
- "Business logics in modern energy systems .

Course literature

Energy Management. Kompendium.

Energy Management compendium

Examination

- PROA - Project, 4.5 credits, grading scale: A, B, C, D, E, FX, F
- SEM1 - Seminars, 1.5 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.

Other requirements for final grade

Project (PRO1; 4,5 ECTS)

Seminar (SEM1; 1,5 ECTS)

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.