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 2020

Grading scale

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

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

Degree of Bachelor of Science. Preferably knowledge in Applied thermodynamics (e g MJ1112, 9 ECTS) or the equivalent.

Language of instruction

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

Intended learning outcomes

On completion of the course, the student should be able to:

ILO 1: Analyse and model large and complex energy systems on district/city level in a methodological way.

ILO 2: Examine uncertainties connected to future cities and districts through scenarios and sensitivity analysis.

ILO 3: Evaluate the cost efficiency for sustainable energy systems by applying appropriate economic methods.

Course contents

Through an integrated programme of lectures, individual studies, workshops, seminars and consultations with teachers, the course content includes:

- Systems thinking and systems analysis
- Energy Economics
- Uncertainty and scenario analysis
- Energy challenges for future cities and districts involving many interested parties and many optimisation criteria. Modelling and simulation of energy systems on district and city level
- Innovative business models for energy systems
- Environment and ecology economy

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

- PRO1- Project 4.5 credits, Grading A-F
- SEM1- Seminar 1.5 credits, Grading A-F

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.