ML1203 Energy Technology 6.0 credits

Energiteknik

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

Establishment

The official course syllabus is valid from the autumn semester 2025 as decided by the Faculty Board: HS-2025-0013. Date of decision: 2025-06-09

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Completed courses: ML1101 and ML1000

Intended learning outcomes

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

- use energy technology concepts

- show skills in fluid mechanics and heat transfer
- solve problems for heat transports in different media
- perform calculations on turbomachinery
- apply the concept of efficiency in energy processes
- evaluate the plausibility of the results

Course contents

- Different forms of energy and energy conversion
- Quantity and units
- Work and energy loss
- Fluid mechanics
- Hydrostatics
- Bernoulli’s principle
- Thermodynamics
- Compressor engine and other heat engines
- Heat transfer
- Fans and pumps
- Combustion engineering
- Thermal and cooling processes
- Indicator diagrams
- Degree of efficiency
- Energy storage methods

Examination

- TEN1 - Written Examination, 4.5 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory Work, 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.

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.