

SYLLABUS

Energy Engineering, project B 15 credits F7013T

Energiteknik, huvudkurs

Course syllabus admitted: Autumn 2023 Sp 1 - Present

DECISION DATE
2022-02-14

Energy Engineering, project B 15 credits F7013T

Energiteknik, huvudkurs

Second cycle, F7013T

Education level	Grade scale	Subject	Subject group (SCB)
Second cycle	G U 3 4 5	Energiteknik	Energy Technology

Entry requirements

In-depth knowledge of thermodynamic principles and heat transfer for example Thermodynamics and Heat Transfer F0032T. You are also expected to be able to describe and dimension ordinary energy technical components, for example Thermal and Hydraulic Components F0057T. Also, you are expected to have in-depth knowledge of different simulation technologies, for example System design and CFD simulation F7019T.

Selection

The selection is based on 30-285 credits

Course Aim

The course aims to give the student experience of actual energy problems in working life.

1. Knowledge and Understanding

After completing the course, the student can:

- explain and illustrate advanced energy engineering problems and systems

2. Skills and Abilities

After completing the course, the student can:

- plan, design, and carry out advanced tasks within specified limits
- analyze and critically evaluate different technical solutions with respect to technique, economy, and sustainability
- writing and orally present energy problems, models, and results for professionals

3. Judgement and approach

After completing the course, the student can:

- critically and independently formulate, reduce and evaluate energy technical problems
- reflect on the conditions for equality in energy engineering

Contents

Project design, literature search, and review of previous studies, configurations of studied systems, energy and mass balance calculations, engineering feasibility and selection of components, technical economic analysis of systems, environmental assessment.

Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

This is a project course in which industry and community stakeholders have suggested several sharp projects they want to do i.e., real problems they need solutions to. For each proposal, a short project specification where the background to the project, the purpose/objective of the project as well as a preliminary work are established. The project is carried out as a group project with guidance from the proposer of the project and a teacher from the university.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. The examination consists of four parts where the student will be graded individually according to the grading scale: unapproved, 3, 4, and 5. All parts must be performed by the student in order to be approved. The four parts are:

1. Planning and individual evaluation of the implementation and the choice of approach to solve the task.
2. Intermediate oral presentation - oral presentation of the project design, methodology, implementation and preliminary results.
3. Final oral presentation - oral presentation of project results
4. Final report - written technical report

Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term "unauthorized aids" refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

Overlap

The course F7013T is equal to MTM138

Course offered by

Department of Engineering Sciences and Mathematics

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0001	Assignment	G U 3 4 5	15	Mandatory	A07	

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Last revised

by Niklas Lehto, Programme Director 2022-02-14

Syllabus established

The syllabus was established by the Department of Applied Physics and Mechanical Engineering 2007-02-28, and remains valid from autumn 2007.