

Energy Systems - Supply and Demand

Programme course

6 credits

Energisystem - tillförsel och användning

TMES44

Valid from: 2017 Spring semester

Determined by

Board of Studies for Industrial Engineering
and Logistics

Date determined

2017-01-25

Main field of study

Mechanical Engineering

Course level

First cycle

Advancement level

G2X

Course offered for

- Industrial Engineering and Management - International, M Sc in Engineering
- Industrial Engineering and Management, M Sc in Engineering

Entry requirements

Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites

Thermodynamics

Intended learning outcomes

The overall goal is to provide systems perspective on energy supply and energy demand. After the course the student should be able to:

- describe and reflect upon the importance of system boundaries for different energy systems
- identify and analyze climatic and environmental aspects on different energy systems
- describe and reflect upon energy supply in society
- describe and reflect upon systems perspectives regarding building, industrial, municipal and regional energy systems

Course content

Systems and systems boundaries, climatic and environmental issues for different types of energy systems, electricity grid and district heating system including production units, regional and municipal energy systems, building energy systems, industrial energy systems.

Teaching and working methods

The course is given in the form of tutorials and seminars.

Examination

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|------|---------------------|------------|-------------|
| TEN1 | Written examination | U, 3, 4, 5 | 4.5 credits |
| UPG2 | Seminars | U, G | 1.5 credits |

Grades

Four-grade scale, LiU, U, 3, 4, 5

Other information

Supplementary courses:

Industrial Energy Systems, Building Energy Systems, Modelling of Energy Systems, Strategic Development of Sustainable Energy Systems, Energy Planning and Modeling of Communities, Analysis and Modeling of Industrial Energy Systems, Energy Policy Instruments, International Energy Markets

Department

Institutionen för ekonomisk och industriell utveckling

Director of Studies or equivalent

Shahnaz Amiri

Examiner

Magnus Karlsson

Education components

Preliminary scheduled hours: 24 h

Recommended self-study hours: 136 h

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.