



ME2086 Global Energy Markets and Systems in Transition 6.0 credits

Globala energimarknader och system i omvandling

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 ME2086 valid from Autumn 2016

Grading scale

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

Education cycle

Second cycle

Main field of study

Industrial Management

Specific prerequisites

Bachelor degree 180 hp. Or 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 students should be able to:

- analyse the function and structure of the global energy system regarding energy type and industrial and political structure
- evaluate and compare technical and economic conditions and relationships between different energy types/energy markets (benchmarking of technical and economical solutions)
- analyse the function and price formation mechanisms of energy markets - globally as well as locally
- analyse the financial terms and conditions of energy systems
- analyse the technical, institutional and political mechanisms that are conditions for the transformation of the energy systems and the function of the energy markets
- assess the effect of climate changes on the transformation of the energy systems and energy markets
- carry out qualified critical analysis of strategies and processes regarding future shifts in technology at company and policy level, related to the transformation of energy markets.

Course contents

The course treats the function of energy systems with a strong focus on the relationship between the structure of the technical systems and their respective economical boundary conditions (pricing, market, etc.), as well as the function and transformation of energy markets.

The course contains a series of lectures with an in-depth review and analysis of conditions and driving forces behind the transformation of the intertwined global energy system from the following perspectives:

- technical
- economic
- political
- climatological

The lectures of the course also focus on the specific nature of energy markets and how this influences the short- and long-term price formation. This includes conditions that are related to the energy production's:

- technical conditions
- industrial organisation
- market structure for supply as well as demand
- political and institutional conditions

- conditions depending on transformations that are related to structural changes, e.g. climate changes

The course contains the seminar activities, where the financial terms and conditions of energy markets are analysed in relation to the technical and institutional structure of the different global energy systems

Course literature

Peer-reviewed and research papers (10-15) and book chapters (3-5) will be announced at the beginning of the course.

Examination

- SEM1 - Seminar, 2.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 4.0 credits, grading scale: A, B, C, D, E, FX, 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.

The course is examined through a written examination (or a take-home examination) and seminar assignments/project work with a focus on the ability to critically analyse and discuss the consequences of technical and industrial processes of change from economic, political, social and ethical aspects and to independently formulate and define problems to tackle complex processes of change by means of data from various types of sources.

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.