



# EG2060 Electricity Market Analysis 7.5 credits

## Elmarknadsanalys

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 EG2060 valid from Autumn 2010

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

Electrical Engineering

## Specific prerequisites

Courses in mathematics (including probability theory) 30 HEC. English B or equivalent.

## Language of instruction

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

## Intended learning outcomes

The students should after the course be able to

- describe the structure of an electricity market,
- perform rough estimations of electricity prices

Describe how electricity prices, power system operation and investments depends on:

- grid limitations, including node pricing, counter buying and auctions
- price sensitive consumers, including measurement requirements, limited flexibility, notice time and types of contract
- financial derivatives, including futures, options and contracts for differences
- grid tariffs, including energy charges, loss allocation and transmission between system operators
- market power, including monopoly, oligopoly, role of authorities, and models such as Cournot and Bertrand
- handling of environmental issues, including certificates, taxes, in-feed tariffs, electricity disclosure, emission rights and “green” electricity.
- Design of balancing markets, including bidding, price methods, secondary control and control areas.
- Handling of risk of capacity deficit, including regulation, capacity payment, roles for different actors.

## Course contents

Theory and examples are presented during the lectures and are then applied by the students in several home assignments, which cover the central parts of the course contents. Home assignments are given for most of the above areas.

## Course literature

“Compendium in Electricity Market Analysis”, Electric Power Systems Lab.

## Examination

- TEN1 - Examination, 7.5 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.

# Other requirements for final grade

Written exam

## 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.