



# MJ2406 Thermal Power Systems 6.0 credits

## Termiska kraftsystem

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 MJ2406 valid from Autumn 2011

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

Mechanical Engineering

## Specific prerequisites

Engineering mathematics, basic thermodynamics, fluid dynamics and heat transfer

## Language of instruction

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

# Intended learning outcomes

After the course the student should be able to:

- Understand the principles and identify the main components of different power generation methods, both conventional and renewable
- Analyze the conventional power methods thermodynamically
- Compare different power generation alternatives and choose the most suitable for a given application and conditions
- Suggest efficiency improvements

# Course contents

The course is about heat and power technology and brings up techniques for large- and small scale electricity and heat generation in power plants fired on conventional or renewable fuels - natural gas, coal, oil, biomass, solar thermal, etc. Thermodynamic and economic analysis of power cycles, heat balance calculations, combustion, steam boilers, steam- and gas turbines, emissions and availability are all included in this course.

# Course literature

Handouts, CompEdu

# Examination

- TEN1 - Written exam, 4.5 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN1 - Home Assignments, 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.

TEN1, 4,5 ECTS, A-F

ÖVN, 1,5 ECTS, P/F

# 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.