MH2601 Combustion in Industrial Processes 6.0 credits

Förbränning i industriella processer

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

On 2024-10-14, the Director of First and Second Cycle Education of ITM school has decided to establish this official course syllabus to apply from spring term 2025 (registration number M-2024-2020).

Grading scale

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

Education cycle

Second cycle

Main field of study

Materials Science and Engineering

Specific prerequisites

Basic eligibility.

Language of instruction

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

Intended learning outcomes

After passing the course, the student should be able to:

· Solve problems in combustion thermodynamics

· Evaluate combustion and aerodynamics in industrial furnaces

· Redesign existing furnaces to decrease fuel consumption, and particle and CO2 emissions

· Suggest the best available combustion technology (BAT) for industrial processes

· Describe the procedure for smoke gas measurement at combustion

Course contents

Basic knowledge of combustion chemistry, thermodynamics and aerodynamics. Combustion of gaseous, liquid and solid fuels. Clean combustion to preserve the environment. Design of combustion processes.

Examination

- TEN1 - Written examination, 2.5 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory Work, 1.5 credits, grading scale: P, F
- INL1 - Assignment, 2.0 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.

If the course is discontinued, students may request to be examined during the following two academic years.

Students who have not passed project task (PRO1) with previous set of assessment modules are assessed in the module INL1.

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.