MH2601 Combustion in Industrial Processes 6.0 credits

Förbränning i industriella processer

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

Establishment

Course syllabus for MH2601 valid from Spring 2013

Grading scale

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

Education cycle

Second cycle

Main field of study

Materials Science and Engineering

Specific prerequisites

Courses equivalent toat least 150 credits from Year 1-3, or a BSc in Engineering or similar.

Language of instruction

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

Intended learning outcomes

After completing the course, students should have knowledge and understanding:
- About combustion and aerodynamics in industrial furnaces and
- About the best available combustion technologies of various biomaterials.
The students should also have attained skills and abilities:
-To suggest improvements in existing furnaces to reduce fuel consumption and green house gas emissions.

Course contents

Fundamental knowledge about combustion chemistry, thermodynamics and aerodynamics. Combustion of gaseous, liquid and solid fuels. Clean combustion to preserve the environment. Combustion process design.

Course literature

1. Industrial burners handbook, Edited by: Charles E. Baukal.2003 by CRC Press LLC.

2. An Introduction To Combustion : Concepts And Applications, Stephen R. Turns, Boston McGraw-Hill, 2000.

3. Lecture materails prepared by division of energy and furnace

Examination

- PRO1 - Project, 2.0 credits, grading scale: P, F
- 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

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.

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.