



# MH2026 Introduction to Materials and Process Design 9.0 credits

Introduktion till material och process design

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

## Establishment

Course syllabus for MH2026 valid from Autumn 2010

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

## Specific prerequisites

A BSc degree

## Language of instruction

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

## Intended learning outcomes

After completed course the student will have

- an understanding of the complexity of materials and process design and have basic knowledge of
- thermodynamics
- phase equilibria, phase transformations, phase diagrams and their relation to microstructure
- transport phenomena (mass and heat)
- pyrometallurgical operations.

## Course contents

The course includes invited lectures given by experts in relevant fields and gives an overview of the field of materials and process design.

The course is an introduction to the following more advanced courses in Thermodynamics, Process Metallurgy, Kinetics and Microstructures:

- Thermodynamics and Kinetics: “Applied Thermodynamics and Kinetics, Part 1”
- Process metallurgy: “MH2029 Process Metallurgy Applications”
- Microstructures: “MH2038 Micro and Nano Structures in Materials”

## Disposition

Lectures 32 h

Exercises 32 h

Laboratory work 15 h

## Course literature

Distributed materials.

## Examination

- TEN3 - Examination, 2.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN2 - Examination, 2.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 3.5 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.