



# MH2039 Process Engineering

## 6.0 credits

### Processteknik

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 MH2039 valid from Autumn 2014

### Grading scale

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

### Education cycle

Second cycle

### Main field of study

Materials Science, Materials Science and Engineering

### Specific prerequisites

Basic knowledge in thermodynamics, heat and mass balances in metallurgical processes and ternary phase diagrams.

### Language of instruction

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

## Intended learning outcomes

Having finishing the course the student will be able to:

- Briefly describe the structure of main routes for material production and treatment processes from raw material to final production
- Briefly describe the main processes of material production in liquid and solid states at high temperature, analyse and compare advantages and disadvantages of main production processes
- Understand and apply ternary phase diagrams in metallurgical processes
- Understand and apply heat and mass balances in metallurgical processes
- Carry out an advanced literature survey in KTH databases to obtain relevant information for specific projects
- Apply individual skills as well as team skills in preparation of project report and presentation

## Course contents

Material production and treatment processes including preparation of raw materials, production of metals, heat and mechanical treatments of metal products. Basic knowledge of physicochemical processes in metallurgy including application of thermodynamic and kinetic processes, ternary phase diagrams, mass and energy balances for calculations in metallurgical processes.

## Course literature

Material utdelat av institutionen

## Examination

- PROA - Project, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- TENA - Examination, 3.0 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.

The Project grade is individual, but based on the group report and presentation.

## 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.