



MH2029 Extractive Metallurgy

6.0 credits

Processmetallurgi

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 MH2029 valid from Autumn 2020

Grading scale

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

Education cycle

Second cycle

Main field of study

Specific prerequisites

MH2026 Introduction to Materials Science and Engineering

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:

- To develop students' knowledge of current methods to recover base metals from natural ores and man made raw materials.
- To develop students' individual skills at performing relevant heat, mass and thermodynamic calculations for the extraction of base metals.
- To develop students' individual skills at interpreting the significance of the results of these calculations.
- To develop students' team skills in interpreting the significance of the results of the calculations.
- To develop the students' decision-making skills as required for the design, improvement, operation and profitability of non-ferrous extractive metallurgical processing.

Course contents

The course is delivered in two parallel parts; one part covering case studies on the extractive metallurgy of iron/steel, copper, aluminum, lead and zinc, and a second part covering metallurgical theory and principles. Throughout the course there is an emphasis on pyrometallurgical processing, but also hydrometallurgical aspects will be covered. The course takes most of its examples from the extraction of iron/steel and copper, but aspects of other metals, notably, aluminum, lead and zinc, are also considered. Knowledge and skills for the use of commercial metallurgical chemical thermodynamic databases such as Thermo-Calc and HSC as well as user programmed interactive spreadsheets will also be developed.

Examination

- TEN1 - Written examination, 4.0 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN1 - Assignments, 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.

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.

