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 2019

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.

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:

- Describe and analyze the production chain for the production of metals from metal/ore raw material to final product.
- Describe, analyze and compare high temperature processes in metal production, for both liquid and solid phase.
- Identify relevant information for a production chain based on available databases and scientific literature to compare and evaluate these.
- Apply heat and mass balances in metallurgical processes.
- Analyze and discuss basic concepts in the theory of organization and gender.
- Explain and discuss what the concept of sustainable development within the metal industry means and how the metal industry is part of a circular economy

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.

Examination

- PRO2 - Project, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Written exam, 2.0 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN1 - Exercise, 1.0 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.