MH1029 Sustainable Process Technology 6.0 credits

Hållbar 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 MH1029 valid from Autumn 2019

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

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, the student should have an understanding of and be able to describe:
- Basic process metallurgical principles for the production of non-ferrous metals
- Application of this to the production of silicon, zinc and aluminum
- Typical duties for a civil engineer in a metallurgical process industry
- How process metallurgical calculations are performed under operating conditions
- How sustainable metal production is a part of the circular economy

Course contents

Lecture and Exercise part (TEN1)
Basic concepts in the process of metallurgy
Processes for the production of non-ferrous metals, especially silicon, zinc and aluminum.
Hydrometallurgical basic concepts
Electrochemical basic concepts

Project including seminar (SEM 1)
Insight into how sustainable metal production is a key part of a circular economy.

Study visit (STU1)
Insight into typical duties of a civil engineer at a steelworks or other metallurgical process industry
Under operating conditions get insight into the practical handling of various metallurgical processes including casting as well as how decoxidation calculations are carried out.

Disposition

Lectures, exercises, projects and field trips included in the course

Specific prerequisites

Fundamental knowledge of the basic processes for the production of metals corresponded to those given in the course MH1022 Fabrication Processes of Metals and Bio Fibres

Course literature

Meddelas i kurs-PM, vid kursstart.

Examination

- SEMA - Seminar, 2.0 credits, grading scale: P, F
- STU2 - Study visit, 1.0 credits, grading scale: P, F
- TENA - Written exam, 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.

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.