



MH2502 Applied Equilibrium Theory in Metallurgical Processes 6.0 credits

Tillämpning av jämviktsteori i metallurgiska processer

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

Establishment

Course syllabus for MH2502 valid from Autumn 2007

Grading scale

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

Education cycle

Second cycle

Main field of study

Specific prerequisites

4H1951/MH1010 Materials Thermodynamics
4H1953/MH1011 Fabrication processes
4H1066/MH1003 Advanced course in metals and ceramics
4H1956/MH2452 Chemical equilibria in metallurgical processes

Language of instruction

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

Intended learning outcomes

To give a sound knowledge of practical application of high temperature thermodynamics in metallurgical processes

Course contents

- Industrial heat- and mass balances.
- Reactions between gas and solids respective molten metals.
- Application of dilute solution thermodynamics in metallurgical processes.
- Slag-metal equilibria.
- Application of the slag capacity concept for liquid metal refining.
- Deoxidation and precipitation of non-metallic inclusions in liquid metals.
- Modification of non-metallic inclusions in liquid metals.
- Thermodynamics of dissolution and application in metallurgical processes.
- Thermodynamic process analysis.

Course literature

Compendium

Examination

- INL1 - Assignment, 1.0 credits, grading scale: P, F
- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory Work, 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.

If the course is discontinued, students may request to be examined during the following two academic years.

Other requirements for final grade

Home assignment (INL1; 1cr)
Examination (TEN1; 3 cr)
Lab work (LAB1; 2 cr)

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.