



MH2041 Applied Thermodynamics and Kinetics, Part 2 6.0 credits

Tillämpad termodynamik och kinetik, del 2

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

Establishment

Course syllabus for MH2041 valid from Spring 2011

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

MH2040 Applied Thermodynamics and Kinetics Part 1

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 will be able to:

- perform calculations of phase equilibria and phase diagrams, basic as well as complex
- identify material engineering problems that may be solved by applying thermodynamics and kinetics and suggest a suitable approach to solve the problem
- apply various thermodynamic and kinetic models
- use different software programs as tools to solve thermodynamic and kinetic problems
- analyse such problems and results qualitatively and quantitatively
- interpret and present the results in a correct and scientific manner

Course contents

Applications in extractive metallurgy, e.g.

- iron and steel making, copper making

Applications in physical metallurgy, e.g.

- solid phase transformations and equilibria in metallic alloys, cemented carbides etc

Disposition

Lectures, tutorials and practicals

Course literature

Computerized Thermodynamics for Materials Science, Selleby and Hillert

Kompedium i kinetik

Book, Extractive metallurgy, Terkel Rosenqvist, 2004 (or similar)

Examination

- TEN1 - Written examination, 5.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Practicals, 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.

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

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.