



MH2028 Chemical Kinetics and Rate Phenomena 6.0 credits

Reaktionskinetik

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

Establishment

Course syllabus for MH2028 valid from Autumn 2007

Grading scale

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

Education cycle

Second cycle

Main field of study

Specific prerequisites

Language of instruction

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

Intended learning outcomes

The course aims at providing the students with an introduction to the kinetics of chemical reactions and rate phenomena in metallurgical as well as materials processes. The knowledge will form the fundamental basis for the students to study the design of metallurgical as well as materials processes, wherein rates of reactions and mass transfer play crucial roles.

Course contents

The students should be able to describe the rate of a chemical reaction and the ways of evaluating it. In view of the heterogeneous nature of most of the metallurgical and materials processes, the students must know how to identify whether a process is composed of series steps or parallel steps or a combination. It is also a basic requirement to understand the methodology to estimate the rate of each of the individual steps in multi-step reactions. The connection between the rate phenomena and chemical reaction will also be discussed. The course includes lectures, tutorials, project work, individual project discussions and final seminar.

Course literature

Distributed materials.

Further reading:

1. Gaskell, An Introduction to Transport Phenomena in Materials Engineering
2. Poirier and Geiger, Transport Phenomena in Materials Processing

Examination

- PRO1 - Project, 4.0 credits, grading scale: P, F
- TEN1 - Examination, 2.0 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.

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

Other requirements for final grade

Examination: 2hp

Project report: 4hp

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.