MH2551 Chemical Kinetics 6.0 credits

Reaktionskinetik

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

Establishment

Course syllabus for MH2551 valid from Autumn 2007

Grading scale

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

Education cycle

Second cycle

Main field of study

Specific prerequisites

4H1954/MH1012 Transport Phenomena
4H1066/MH1003 Påbyggnadskurs i metaller och keramer

Language of instruction

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

Intended learning outcomes

The course is to provide the students an introduction of 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. Metallurgical and materials processes are very often heterogeneous in nature, which always involve multi-step reactions. The students should learn the methodology to estimate the rate of each of the individual steps.

Course contents

The course will focus on the chemical kinetics, rate theory, rate phenomena in metallurgical and materials processes (Mass transfer and heat transfer). The basic knowledge to consider the overall rate of a sub-process will also be gi

Course literature

Gaskell, An Introduction to Transport Phenomena in Materials Engineering

Poirier and Geiger, Transport Phenomena in Materials Processing

Distributed materials

Examination

- INL1 - Assignment, 4.0 credits, grading scale: A, B, C, D, E, FX, 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

Assignment (INL1; 4 cr)
Exam (TEN; 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.