



KD1040 Chemical Thermodynamics 7.5 credits

Kemisk termodynamik

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 KD1040 valid from Autumn 2007

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

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 will give basic knowledge in thermodynamics and its applications in chemistry, chemical engineering and biological systems.

Course contents

- Equations of state for gases, intermolecular forces
- The laws of thermodynamics, internal energy and entropy
- Criteria for equilibrium, free energy
- Partial molar quantities, the chemical potential
- Chemical equilibrium in ideal and non-ideal systems
- The thermodynamics of mixtures
- Phase equilibria, phase diagrams for systems containing one, and two components
- Chemical reactions in biological systems

The practical laboratory work includes

- Gases, liquids and supercritical fluids
- Liquid mixtures, vapour pressures and activity
- The thermodynamics of electrolyte solutions

Course literature

See the course page

Examination

- LAB1 - Laboratory Work, 1.5 credits, grading scale: P, F
- TEN1 - Examination, 6.0 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.

Other requirements for final grade

1. Written examination 6 credits
2. Laboratory work 1,5 credit

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.