CK1280 Chemical Equilibrium 4.5 credits

Kemisk jämvikt

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

Establishment

Course syllabus for CK1280 valid from Autumn 2023

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Completed upper-secondary school before 1 July 2011 and adult education at upper-secondary level before 1 July 2012

Specific entry requirements: mathematics E, physics B and chemistry A. In each of the subjects the grade Passed or 3 is required.

Completed upper-secondary school from 1 July 2011 and adult education at upper-secondary level from 1 July 2012 (Gy2011)

Specific entry requirements: Physics 2, Chemistry 1 and Mathematics 4. In each of the subjects a pass grade or better is required.

Language of instruction

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

Intended learning outcomes

On completion of the course, the student should be able to:

- Describe a chemical system at equilibrium using relevant equations and solve the system of euqations to determine the properties of the chemical system.
- Plan and perform wet chemical work in accordance with standard procedures for safe handling of chemicals and apply the equilibrium concept.

Course contents

The course focuses on a quantitative analysis of acid / base, gas, distribution, solubility, coordination and redox equilibria. The course aims to give a general understanding of how equilibria affect the composition of a system. As examples natural cycles and industrial processes will be discussed. How the equilibrium concept can be practically utilized to influence a reaction will be exemplified practically in inorganic labs.

Examination

- TEN1 - Written exam, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory exercises, 1.5 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.