



KD1210 Analytical Chemistry

7.5 credits

Analytisk kemi

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

Establishment

Course syllabus for KD1210 valid from Autumn 2013

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Basic eligibility and the specific requirements of mathematics, physics and chemistry corresponding to Mathematics E, Physics B and Chemistry A, and minimum of 7.5 credits in organic chemistry.

Language of instruction

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

Intended learning outcomes

After completing the course the student should be able to:

- describe and use some basic chemical analysis techniques
- define which alternative methods are available within each technique, explain the principles for these and name advantages and disadvantages
- describe the function of the different parts of the instrumentation for the various techniques/methods
- choose and apply appropriate calibration models
- choose a technique, method and instrumentation, which is suitable for a specific analytical problem and be able to motivate the choice
- evaluate the usefulness and limitations of different analytical techniques
- demonstrate and explain an analytical method before a group of pupils/students

Course contents

Lectures: Spectroscopy, Chromatography, Potentiometry, Calibration

Laboratory work: Chromatography, Potentiometry, Spectrophotometry and two short laboratory projects

One of the projects includes development of a suitable analysis method for a given problem and the other to demonstrate and explain the method to a group of students from upper secondary school or similar.

Course literature

Quantitative Chemical Analysis, D.C. Harris, 8ed, ISBN 9780716776949

Examination

- PROB - Laboratory Project, 1.5 credits, grading scale: P, F
- PROA - Laboratory Project, 3.0 credits, grading scale: P, F
- TENA - Examination, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- LABA - Laboratory Work, 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.

The part PROA includes a written report and an oral presentation.

The part PROB includes a demonstration.

Other requirements for final grade

The parts TENA, LABA, PROA and PROB should all be approved. The examination TENA will decide the final grade.

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.