MH282V Ion Exchange Separation and Purification Methods 9.0 credits

Jonutbyte: Separations- och reningsmetoder

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 MH282V valid from Autumn 2008

Grading scale

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

Education cycle

Second cycle

Main field of study

Specific prerequisites

Completed upper secondary schooling incl documented proficiency in English.

Language of instruction

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

Intended learning outcomes

The knowledge obtained shall provide an understanding of chemistry, applicability, chemical engineering, chemical technology, benefints, and applications of the ion exchange separations.

Course contents

Ion exchange separations are essential parts of different techniques and technologies. Various applications can be found in biochemical industry, pharmacy, medicine, food production, waste treatments, microelectronics, nuclear industry, and many other areas. Ion exchange is a powerful tool in chenical analysis as well as in chemical and biochemical research. Principles explained in the course can be applied to many other (non-separation) processes. For example, ion exchange is an essential part of processes taking place in soils and grounds. Importance of ion exchange in biological systems can not be underestimated. Many other areas can be named. One can find applications of relevant knowledge in widest areas of human activity.

Disposition

The course starts from introduction of main concepts and ideas of ion exchange. Then theoretical background is studied including main chemical and physico-chemical principles. At the end of the course there will be an individual project work.

Course literature

Before beginning of the course, each student must get an access to the book A. Zagorodni, Ion exchange Materals: Properties and Applications, 2007, ISBN: 0-08-044552-7. Please do not hesitate and contact Andrei Zagorodni (andreyz@mse.kth.se) on this matter.

Examination

- PRO1 - Assignment, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- PRO2 - Assignment, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- PRO3 - Project, 3.0 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

Completed assignments (3 + 3 CR) Individual Project work (3 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.