



# KH1332 Chemical Engineering and Technology 3 9.0 credits

Kemiteknik 3

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

## Establishment

Course syllabus for KH1332 valid from Autumn 2014

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Chemistry and Chemical Engineering, Technology

## Specific prerequisites

Completed upper secondary education including documented proficiency in Swedish corresponding to Swedish B, and English corresponding to English A

Upper-secondary education before 1 July 2011 and upper-secondary adult education before 1 July 2012

Specific entry requirements: Mathematics D, Physics B, Chemistry A. Each subject requires a grade of Pass or 3.

Upper-secondary school from 1 July 2011 and upper-secondary adult education from 1 July 2012 (Gy2011)

Specific entry requirements: Physics 2, Chemistry 1 and Mathematics 3c. Each subject requires at least a Pass grade.

## Language of instruction

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

## Intended learning outcomes

To develop the skill to analyse and optimise process systems considering the technical and economic aspects and training in project work.

Another aim of the course is to give an insight in how environmental aspects are incorporated in a large project and how to avoid unnecessary environmental influence by take these into consideration at an early stage.

When you have passed the course you will be able to:

- use your knowledge in chemical engineering, environmental technology and economics to solve complex problems in chemical engineering
- use advanced information searching, to judge the reliability of the sources and to adapt the choice of sources to the requirements
- search for, compile and present information about a chemical process in written form
- apply a project oriented way of work on real problems formulated by commission from companies or administration

## Course contents

Common separation processes such as adsorption, ion exchange, membrane technique, periodic distillation, drying and filtering. Heterogeneous reactions/catalytic processes. Methods for process development and process analysis.

A project including development of a chemical process or a process step is carried out. Aspects like working conditions/health, process safety, quality, economy, environmental legislation, contacts with public authorities, location, transports and supply of raw materials are taken under consideration.

## Course literature

McCabe, W. L., Smith, L. C. and Harriott, P., Unit Operations of Chemical Engineering, McGraw-Hill Simonsson, D., Kemisk reaktionsteknik, KTH, eller Fogler, H. S., Elements of Chemical Reaction Engineering, 4th ed, Prentice-Hall International, 2005 m.m.

## Examination

- PRO1 - Project Work, 7.5 credits, grading scale: P, F
- LIT1 - Literature 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.

## Other requirements for final grade

Passed literature work (LIT1; 1,5 credits)

and taking part actively in a passed project work (PRO1; 7,5 credits)

The final grade is affected by both elements.

## 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.