



# KE1030 Transport Phenomena and Engineering Thermodynamics 10.5 credits

Transportprocesser och energiomvandlingar

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 KE1030 valid from Spring 2011

## 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 English corresponding to English A. For students who received/will receive their final school grades after 31 December 2009, there is an additional entry requirement for mathematics as follows: documented proficiency in mathematics corresponding to Mathematics A.

And the specific requirements of mathematics, physics and chemistry corresponding to Mathematics E, Physics B and Chemistry A.

## Language of instruction

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

## Intended learning outcomes

After the course the student has acquired a good knowledge about the more important aspects of transport phenomena and engineering thermodynamics in chemical engineering.

## Course contents

The course covers two fundamental areas in chemical engineering. One is engineering thermodynamics in which the application of the first and the second law of thermodynamics in chemical engineering is dealt with. The second is transport phenomena, which deals with transport of momentum, energy and mass – the underlying mechanisms and how these are exploited in chemical engineering equipment like distillation columns, filters and chemical reactors, but also in other areas.

## Course literature

Coulson J.M. and Richardson J.F., Chemical Engineering vol. 1, 6th ed, Butterworth Heinemann, 2000 and, vol 2, 5th ed., Butterworth Heinemann, 2002.

## Examination

- TENA - Examination, 1.5 credits, grading scale: P, F
- TENB - Examination, 3.0 credits, grading scale: P, F
- ÖVN1 - Assignment, 6.0 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.

## Other requirements for final grade

Examination in two parts;

Engineering Thermodynamics (TENA) 1,5 credits Transport Phenomena (TENB) 3 credits  
Group project (ÖVN1) 6 credits

## 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.