FCK3502 Chemical Reaction Engineering 7.5 credits

Kemisk reaktionsteknik

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 FCK3502 valid from Autumn 2020

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

Eligible for studies at the third-cycle level.

Courses corresponding to the Bachelor programme Engineering chemistry at KTH or equivalent.

Language of instruction

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

Intended learning outcomes

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

- Describe ideal reactors and their characteristics
- Develop mathematical expressions (models) to describe the behaviour of reactors and analyse how kinetics, mass- and heat transfer affect the performance of reactors.
- Apply analytical and numerical methods to determine reactor behaviour and analyse the results
- Design/Size chemical reactors and optimise operating conditions
- Apply RTD (residence time distribution) methods to diagnose non-ideal flows in reactors and calculate conversions in non-ideal reactors.

Course contents

- Ideal homogeneous chemical reactors
- Heterogeneous chemical reactors
- Non-Ideal reactors

Examination

- DAT1 - Laboratory work, 1.5 credits, grading scale: P, F
- INL1 - Home and classroom problems, 3.0 credits, grading scale: P, F
- TEN1 - Written exam, 3.0 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.

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.