



KF2170 Polymer Process Engineering I 7.5 credits

Polymers materials bearbetning I

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 KF2170 valid from Autumn 2007

Grading scale

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

Education cycle

Second cycle

Main field of study

Chemistry and Chemical Engineering

Specific prerequisites

KF2130 Polymer chemistry, KF2140 Polymer physics, KF2190 Polymeric materials: Structure and properties.

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 should be able to describe materials science conditions for forming of polymers and know the most important processing methods.

Course contents

Processing of polymers and the connections between choice of material, choice of method and properties of the final polymer product. The mechanical and physical behavior of polymer melts; rheology, orientation of molecules, solidification. The three dominant and technically most advanced processing methods, injection moulding, extrusion and calendering, are thoroughly discussed. Other processing methods are described more briefly. Special emphasis is put on the influence of different processing methods on the structure and properties of the materials, morphology, orientation of molecules, anisotropy, thermal residual stresses.

Course literature

Compendium - Polymerers bearbetning,

(B. Stenberg).

Examination

- LAB1 - Laboratory Work, 3.0 credits, grading scale: P, F
- TEN1 - Examination, 4.5 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

Written examination, 4.5 credits.

Laboratory work, 3 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.