



FKF3370 Thermal Analysis of Polymers 4.0 credits

Termoanalys av Polymerer

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

Establishment

Course syllabus for FKF3370 valid from Spring 2014

Grading scale

G

Education cycle

Third cycle

Specific prerequisites

Basic knowledge about polymer science and engineering.

Language of instruction

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

Intended learning outcomes

The students will acquire basic knowledge about the principles of different thermal analytical techniques such as DSC, TG, TMA and TOA and how samples are prepared and how results are interpreted.

Course contents

- Thermal analytical techniques – an overview
- Differential scanning calorimetry
- Thermogravimetry
- Thermomechanical analyses
- Other techniques: Thermal optical analyses, techniques based on microscopy and diffraction experiments
- Semicrystalline polymers (crystallinity, melting point, crystallization kinetics)
- Amorphous polymers: glass transition, physical ageing, assessing phase structure in polymer blends

Degradation kinetics studies

Course schedule: 24 h lectures: this course is intended to be held every second year:

Course literature

Thermal analyses, Chapter in textbook: Polymer Physics, U.W. Gedde, Springer Verlag (1995); Thermal Analysis, B. Wunderlich; Academic Press (1990).

Examination

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.

Written examination (4 hp)

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.

