FKF3090 Polymer Chemistry 6.0 credits

Polymerkemi

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

Establishment

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

KF2130 Polymer chemistry

Language of instruction

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

Intended learning outcomes

After passed course the student shall be able:

- From a desired macromolecular chemical structure draw up a suitable synthesis path and suggest appropriate process parameters.

- From a given monomer draw up a suitable synthesis path and suggest appropriate process parameters.
- -Understand the relationships between polymerization conditions and the polymer product characteristics with respect to molecular weight, molecular architecture, stereochemistry, and morphology.
- Describe the kinetics associated with various polymerization mechanisms.
- Describe and predict the results from different modification processes applied to polymers.
- Value, understand and use the development in the field of polymer chemistry synthesis.

Course contents

Different polymerization processes regarding chemical mechanisms and different steps, by-reactions and modifications which can occur are compared and discussed. The course aims at giving knowledge and tools for designing new polymers. This is an advanced course in polymer chemistry which will give deepening and general knowledge in the chemistry, structure, production and modification processes of polymers. This is not a continuous course like the polymer chemistry course for undergraduate students, which aims at giving a comprehensive picture, but more of a methodology course which will supplement and deepen the knowledge acquired from the basic course. The course will stimulate to critical examination and discussion about actual synthesis routes in the field, existing as well as new ones.

Examination

- TEN1 - Written exam, 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.

If the course is discontinued, students may request to be examined during the following two academic years.

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.