KF2190 Polymeric Materials: Structure and Properties 7.5 credits

Polymera material: Struktur och egenskaper

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

Establishment

Course syllabus for KF2190 valid from Spring 2024

Grading scale

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

Education cycle

Second cycle

Main field of study

Chemical Science and Engineering, Chemistry and Chemical Engineering

Specific prerequisites

Bachelor's degree within a programme that includes:
50 university credits (hp) in chemistry or chemical engineering, 20 university credits (hp) in mathematics and in computer science or corresponding.

Language of instruction

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

Intended learning outcomes

After completing the course the student should be able to
Explain and relate polymeric materials properties to their chemical structure
Identify polymeric materials and choose a polymeric material fpr a given application considering their structure, properties, commercial availability and environmental impact
Explain how the choice of synthesis method and additives affect the properties of the resulting product.
With a limited set of directions plan and carry out a project based laboratory experiment, while taking into account the environmental aspects of the substances used and created and present the project work in an illustrative and clear manner in a poster presentation with consideration taken to the target audience.

Course contents

This course aims to extend the knowledge the polymerization techniques and the physical properties of the created polymers by giving detailed knowledge of the structure, properties and applications of polymeric materials. This will enable educated assessments on the choice of polymeric materials for a given application and the effect of the chemical structure on the polymer properties.

Examination

- TENA - Oral exam, 4.0 credits, grading scale: A, B, C, D, E, FX, F
- LABA - Laboratory Work, 3.5 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.

Other requirements for final grade

Active participation in all compulsory activities as specified in Course information.

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.