



KF102X Degree Project in Polymeric Materials, First Cycle 15.0 credits

Examensarbete inom polymera material, grundnivå

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 KF102X valid from Spring 2011

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Admitted to the Degree Programme in Materials Design and Engineering - CMATD

A total of 120 credits must be completed, of which 90 credits from study year 1 and 2, and which at least 50 credits from study year 1 is completed.

Language of instruction

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

Intended learning outcomes

After completed the degree project, first level, the student should be able to:

- Apply knowledge and skills on organic material collected in previous courses
- Read and evaluate scientific literature in English and Swedish
- Obtain necessary information for the formulation of the problem
- Formulate questions about a problem and apply the methodology in the field
- Plan and execute a larger experimental work with the related issues
- Evaluate and draw conclusions about the experimental data
- Present an oral and a written report based on the current issues

Course contents

The deepening area towards Polymers and Cellulose based material gives a broad and deepened education with focus on organic material, such as plastic, rubber, composites and cellulose-based material. The deepening area covers synthesis, production, properties, characterization, processing and long-time properties of products produced through chemical synthesis (synthetic polymers) and/or through use of natural polymers (polysaccharides, proteins, wood, natural fiber for example). The deepening's application areas are to be found within pharmaceutical, forest (for example paper), packaging, electronic, surface treatment, chemistry technical and other material using industries.

In the deepening area's of the course, the student deepens and repeats in the form of seminars appropriate organic chemistry for a deeper understanding of the synthetic and the natural polymers structure and properties. The new development of material through imitation of natural polymers, so called biomimetical structures are discussed. In the project part the student perform an information-retrieval about the current question and reads the Swedish and English scientific literature that are necessary for the base to be able to formulate questions involved with a problem. Thereafter the student plans and executes an experimental work with the goal to solve the problems that arise. The experimental results are analyzed and valued and the work is after that reported orally and in written form. The report is examined with regard to content and structure with relevant references to sources, figures, tables and formulas. The report is examined from a linguistic point of view where Writing rules for Swedish and English (TNC0100) is used. En English or Swedish summary shall be included in every rapport. Each student shall also do an opposition on another persons work and in this part the student will audit and give feedback on a technical work and be able to respond to similar comments on own work.

The deepening work can be performed in Polymer technology, Polymer Materials, Surface technology, Fiber technology, Wood chemistry/Pulp technology and Paper technology.

Course literature

Scientific articles.

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.

Other requirements for final grade

PRO1; Projectwork. 15 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.