



# F3E5051 Organic Coating Chemistry 6.0 credits

## Organisk ytbehandlingskemi

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 F3E5051 valid from Spring 2009

## Grading scale

## Education cycle

Third cycle

## Specific prerequisites

## Language of instruction

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

## Intended learning outcomes

The aim of the course is to provide the course participant useful theoretical and practical skills required for successful laboratory work in a coating chemistry laboratory. Coating technology is an interdisciplinary subject and the course is designed with respect to that.

## Course contents

Topics that will be covered:

- Esterification (acid/base catalysed, low temperature reagent, large scale etc.)
- Free radical chemistry (polymer production and curing of resins)
- Linking chemistry to various substrates for covalent surface modifications
- Melamine - urea formaldehyde chemistry
- Isocyanate chemistry
- Molecules with non-linear optical properties for use in optical power limiting applications
- Chemistry for LED's and similar devices
- Emerging techniques (controlled radical polymerization, "click"-chemistry, ROMP etc.)
- Laboratory skills

## Disposition

The course will be biweekly seminars where all participants are required to take an active part. All participants have to prepare short presentations for all seminars. Moderator: Eva Malmström or specially invited moderators (depending on topic). In total 15 times, ca 2 hours each time. The first seminar will be held on Monday, February 14:th 3-5 pm, in the kitchen at KTH Fibre and Polymer Technology, Teknikringen 48, 1st floor.

## Course literature

Selected papers will be distributed among the participants

## 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

80% participation in the seminars and written final project work

## 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.