



CK107V Paint and Coating Technology: Theory and Practice 5.0 credits

Färg- och ytbehandlingsteknologi: teori och praktik

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 CK107V valid from Autumn 2024

Grading scale

P, F

Education cycle

First cycle

Main field of study

Chemical Science and Engineering

Specific prerequisites

General eligibility for university studies, including basics in physics, chemistry and intermediate course in mathematics (3C)

Language of instruction

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

Intended learning outcomes

Describe what a coating system is and use the terminology in the field of organic coatings.

Discuss aspects of coating chemistry and coating technology, such as binders, pigments, additives, coating formulation, production, substrates, coating processes, coating defects, analysis, testing, environmental-, health-, and safety aspects.

Explain the areas of use for different coatings and properties of the dried/cured coating.

Discuss environment-driven challenges within the coating industry.

Course contents

- Introduction to chemistry and coatings in general
- Surface and colloid chemistry of coatings
- Binders and solvents
- Pigments and fillers
- Additives
- Coating formulation and experimental planning
- Coating production
- Substrate and pretreatment for coating application
- Application
- Drying/curing
- Analysis and characterization
- Testing
- Colour, colour measurement and tinting systems
- Colour defects and surface defects
- Environment, health and safety
- Third Party Certification
- Functional coatings and new technologies
- Lectures by invited guest lecturers from industry
- Group work/problem solving
- Study visit to the coating manufacturing industry

Examination

- TEN1 - Written exam, 5.0 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.

At least 75 % participation in lectures and group exercises/problem solving. Completion of study questions.

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.