CK1165 Materials Chemistry and Properties 8.0 credits

Materialens kemi och egenskaper

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 CK1165 valid from Autumn 2023

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

KE1140 Technical Chemistry or similar

KD1230 Organic Chemistry, fundamental concepts and practical knowledge or similar

Language of instruction

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

Intended learning outcomes

After successfully completing the course the student shall be able to:

- Define and describe material with respect to structure, morphology, properties, and uses as well as the relationships between these.
- Develop and design materials and material products with consideration for sustainable development.
- Perform laboratory work within materials chemistry and materials production processes and then evaluate and present their work in a written form.
- Summarize and evaluate knowledge from materials related industris as well as independently reflect on the achetypal rolls and duties of a civil engineer in materials related industries.

Course contents

This course provides a broad and basic knowledge of materials chemistry that includes polymers, fiber-based materials, composites, hybrid materials, semiconductors, and magnets.

The course provides in-depth knowledge in creating, developing and analyzing the structure and properties of the materials and covers both practical and theoretical elements.

Examination

- LAB1 - Laboratory exercises, 1.0 credits, grading scale: P, F
- TEN1 - Written exam, 6.0 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN1 - Studie visits, 1.0 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.

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.