KH1121 Organic Chemistry 9.0 credits

Organisk kemi

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 KH1121 valid from Spring 2024

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

The upper secondary school from 1 July 2011 and adult education at upper secondary level from July 2012 (GY2011):

Completed upper secondary education including documented proficiency in Swedish corresponding to Swedish B and English corresponding to English A.

Specific requirements; Physics 2, Chemistry 1 and Mathematics 3c, with at least the grade Pass.

The upper secondary school before 1 July 2011 and adult education at upper secondary level before July 2012:

Completed upper secondary education including documented proficiency in Swedish corresponding to Swedish B and English corresponding to English A.

Specific requirements of mathematics, physics and chemistry corresponding to Mathematics D, Physics B and Chemistry A, as well as 10 university credits (hp) in chemistry.

Language of instruction

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

Intended learning outcomes

After passing the course, the student will be able to:

- describe organic compounds with different structural representations and describe the structure and properties of common functional groups.
- Apply stereochemical concepts and IUPAC:s nomenclature for organic compounds with common functional groups.
- Use curly arrows for describing electron flow in organic reaction mechanisms.
- explain the relationships between structure and reactivity of organic molecules.
- explain important organic reactions and their mechanisms.
- briefly account for the twelve principles of green chemistry.
- use the chemical literature for risk analysis and experimental methods.
- apply experimental methods for synthesis, purification, separation and identification of organic compounds.

Course contents

Knowledge of structure and reactivity of organic compounds and their functional groups.

Organic chemistry reactivity based on functionality as well as describing organic reactions and reactions mechanism using curly arrows.

Basic synthesis methodology and strategy.

Fundamental practical organic chemistry.

Examination

- LABA - Laboratory work, 6.0 credits, grading scale: P, F
- TENA - Written exam, 3.0 credits, grading scale: A, B, C, D, E, FX, 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.

Other requirements for final grade

Written exam (TENA; 3 cr.). Passed lab sessions (LABA; 6 cr.)

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.