LUNDS UNIVERSITET
Lunds Tekniska Högskola

Course syllabus

Organisk kemi
Organic Chemistry

KASA05, 5 credits, G1 (First Cycle)

Valid for: 2023/24
Faculty: Faculty of Engineering, LTH
Decided by: PLED B/K
Date of Decision: 2023-04-18

General Information

Main field: Technology.
Compulsory for: W2
Language of instruction: The course will be given in Swedish

Aim

The aim of the course is to give basic knowledge of structure, properties and reactivity of organic molecules.

Learning outcomes

Knowledge and understanding
For a passing grade the student must

- be able to identify and name organic compounds and compound classes
- be able to explain properties and reactivities of organic compounds
- be able to identify some important biomolecules

Competences and skills
For a passing grade the student must

- be able to discuss orally and in writing organic compounds
- be able to independently plan and evaluate simple organic syntheses
- be able to apply models for electron distribution to explain organic reactivity
- with supervision, be able to apply in practice simpler experimental descriptions of organic synthesis
- with the use of literature be able to identify environmental and laboratory risks associated with organic compounds

- be able to identify risks associated with laboratory work

Judgement and approach
For a passing grade the student must

be able to discuss the importance of organic molecules in everyday life

Contents

The course discusses:

- Basic organic compound classes such as alkanes, alkenes, alkynes, alcohols, alkyl halides, ethers, amines, aromatic compounds, and carbonyl compounds
- Isomery
- Stereochemistry
- Organic nomenclature
- Chemical reactivity
- Kinetics for important reaction types
- Mechanisms for substitution, addition, reduction, oxidation, elimination and rearrangements
- Reactive intermediates: cations, anions and radicals
- Important biomolecules such as: DNA, RNA, proteins, carbohydrates and lipids

During the laboratory course part are given a deepened comprehension of organic reactivity, ability to follow simpler experimental descriptions under supervision in order to synthesize and analyze organic compounds, and ability to search and value information concerning risk aspects of organic compounds.

Problem solving is emphasized throughout the course

An important aspect is to be able to make clear drawing of organic molecules and orally and in writing present organic reactions. The importance of organic chemistry in the society and in the environment is emphasized all through the course.

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)
Assessment: Continuous examination. Passed tests. Failed continuous examination demands written final exam. Passed laboratory exercises.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Parts
Code: 0118. **Name:** Organic Chemistry, Theory.
Credits: 4,5. **Grading scale:** TH. **Assessment:** For a passing grade the student must pass written final exam or continuous examination. The continuous examination consists of written tests where more that 50% of the total points of the tests are required for a passing grade. 65% give grade 4 and 80% gives grade 5.
Code: 0218. **Name:** Organic Chemistry, Practical.
Credits: 0,5. **Grading scale:** UG. **Assessment:** Safety analysis before laboratory work, laboratory journal, and short report after the laboratory work.

Admission

Assumed prior knowledge: KASA01 Fundamental Chemistry
The number of participants is limited to: No
The course overlaps following course/s: KOK050, KOKA15, KOKA10, KOKA25

Reading list

- Ellervik, U, Kann, N och Sterner, O: Organisk kemi, 3:e upplagan. Studentlitteratur , 2014, ISBN: 978-91-44-09991-0.
- Compendium: Organisk kemi.

Contact and other information

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Course homepage: https://canvas.education.lu.se/