

Course syllabus

Oorganisk kemi Inorganic Chemistry

KASA10, 7,5 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: K2

Elective Compulsory for: B2

Language of instruction: The course will be given in Swedish

Aim

- that the student acquires an active knowledge base concerning the properties and reactions of the elements and inorganic compounds
- to provide a general introduction to the structure, formation and properties of solids

Learning outcomes

Knowledge and understanding

For a passing grade the student must

- have sufficient knowledge on the most important inorganic substances to be able to discuss them and their properties
- be able to describe metal complexes and crystals
- be able to account for how X-rays can be utilized for the characterization of materials

Competences and skills

For a passing grade the student must

be able to utilize her/his knowledge of the structure of the atom and the periodic table of the elements in order to predict the properties of the elements and their compounds

Contents

- The structure of atoms, the building-up principle and the periodic table
- Solids
- X-ray diffraction
- Inorganic materials
- Nanomaterials
- Production, use and properties of elements and common compounds formed by the main group elements and d-elements
- Complexes of d-elements and crystal field theory

Project assignment: Practical exercises selected to highlight important parts of the course.

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)

Assessment: Written examination. Applied project completed. Examination results define grade.

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.

Admission

Assumed prior knowledge: KOOA15 General Chemistry

The number of participants is limited to: No

The course overlaps following course/s: KOO022

Reading list

- Hand-out material.
- Housecroft E.: Inorganic Chemistry, 5/E. Pearson, 2018, ISBN: 1292134143, ISBN: 9781292134147.

Contact and other information

Course coordinator: Professor Ebbe Nordlander , ebbe.nordlander@chemphys.lu.se

Course homepage: <http://www.kilu.lu.se/cas/education/undergraduate-education>