



Syllabus

KE4009.1 General Chemistry for the Energy systems engineering program, 7.5 credits

Allmän kemi för civilingenjörsprogrammet i energisystem

The course is given Energy Systems Engineering Programme (admission before 1 July 2007)

Syllabus discontinued 14 March 2022

Version 1 in Slukurs. Corresponds to version 1 in Ladok

Syllabus approved

6 March 2002

The version applies to students admitted from autumn 2002

The version is not a module version

Subjects

Chemistry

Education cycle

First cycle

Modules

| Title | Code | Credits |
|---------------|-------------|----------------|
| Single module | 0101 | 7.5 |

Advanced study in the main field

Grading scale

Pass / Failed

The requirements for attaining different grades are described in the course assessment criteria which are contained in a supplement to the course syllabus. Current information on assessment criteria shall be made available at the start of the course.

Language

Swedish

Prior knowledge

Specific entrance requirements for studies at the Energy systems engineering program, or equivalent

Objectives

Having completed the course, the student

- shall have knowledge of and be able to apply the general chemistry laws and concepts needed in subsequent studies of energy production and environment protection sciences,
- know names, formulas and properties of the most important natural inorganic compounds, as well as their reactions.
- have acquired enough experimental skills to be able to perform and to write reports on chemical experiments, and be able to participate in the more advanced courses in chemistry and courses in energy and environmental science.

Content

The course is focused on consideration of the energy reasons for chemical processes in industry and nature and systematic treatment of the chemical equilibria emerging in these processes. It includes stoichiometry, the periodic system, the chemical bond, nuclear reactions, chemical energetics and application of thermodynamics in description of chemical equilibria, such as protolysis, solubility, complex formation, redox processes, coupled equilibria and ion-exchange processes, chemical kinetics, principles of chemical analysis as titration and spectrophotometry.

Implementation

Lectures 40 h

Theoretical exercises and tutorials 30 h

Laboratory exercises (compulsory) 54 h

Examination**Requirements for examination**

Written presentation of laboratory exercises. Written examination.

Passed examination and laboratory course.

- If the student fails a test, the examiner may give the student a supplementary assignment, provided this is possible and there is reason to do so.
- If the student has been granted special educational support because of a disability, the examiner has the right to offer the student an adapted test, or provide an alternative assessment.
- If changes are made to this course syllabus, or if the course is closed, SLU shall decide on transitional rules for examination of students admitted under this syllabus but who have not yet passed the course.
- For the examination of a degree project (independent project), the examiner may also allow the student to add supplemental information after the deadline. For more information on this, please refer to the regulations for education at Bachelor's and Master's level.

Transitional regulations

- Exams: At least three retake sessions (renewed exams) must be offered within two years of the decision to cancel the course.
- Compulsory elements: At least one opportunity for a retake session must be offered within two years of the decision to cancel the course.

Additional information

The course is a part of the Energy systems engineering program, which is an education in collaboration between SLU and Uppsala University.

- The right to take part in teaching and/or supervision only applies to the course date to which the student has been admitted and registered on.
- If there are special reasons, the student may take part in course components that require compulsory attendance at a later date. For more information on this, please refer to the regulations for education at Bachelor's and Master's level.

Responsible department

Department of Molecular Sciences

Supplementary Information

Finalized by: Programnämnden för naturresursprogrammet

Course overlap: KE0016 KE0002