



Faculty of Health, Science and Technology
Chemistry

Syllabus

Chemistry, Bachelor Thesis

Course Code: KEGCX5

Course Title: Chemistry, Bachelor Thesis
Kemi kandidatarbete

Credits: 22.5

Degree Level: Undergraduate level

Progressive Specialisation: First cycle, has at least 60 credits in first-cycle course/s as entry requirements, contains degree proj. for B.A./B.Sc. (G2E)

Major Field of Study:
KEA (Chemistry)

Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2024-02-14, and is valid from the Spring semester 2025 at Karlstad University.

Prerequisites

75 ECTS credits in Chemistry, including Scientific Writing and Theory in Chemistry and Chemical Engineering, 7.5 ECTS credits, and registered for 15 ECTS credits in Mathematics, with 7.5 ECTS credits completed, or equivalent

Learning Outcomes

The aim of the course is for students to develop skills in independent planning, execution, and presentation of the results of research investigations related to chemistry problems, as well as the ability to critically review the scientific work of others.

Upon completion of the course, students should be able to:

- independently identify, formulate, and delimit scientific research questions, including

giving an account of their relation to established knowledge in chemistry and to current research issues,

- apply different research methods on the basis of scientific questions,
- analyse their need of science information, perform information searches, and assess, compile, and critically interpret the material yielded,
- set up subgoals for scientific investigations and carry out investigations within given time limits,
- present the result of scientific investigations within given time limits in a written report that meets the formal requirements of science and technology in terms of content, structure, and language,
- perform oral presentations of scientific works, meeting the requirements of relevance of content and clarity of language and delivery,
- critically review and comment on research,
- make assessments with consideration given to the relevant scientific, societal and ethical aspects related to the problem addressed in the completed investigation, and
- identify their own need of further knowledge and skills development.

Content

The course is offered in the form of a supervised practical project. The students work on their own investigative projects during 12 out of the 15 weeks that make up the course. Instruction is in the form of supervision, individually or in groups of students, or a combination. Supervision is provided for the duration of the course. Re-registered students are only offered supervision if circumstances permit.

Students draw up a project plan which includes research questions, methods, and a time plan. The project plan must be approved by the examiner before the project starts. The results of the project are compiled in an individual report written in Swedish or English. The report must always have a title and abstract in Swedish and English. The report must meet the standard requirements of research ethics and include discussions of:

- the relation of the research question and results to existing knowledge and previous research in the area,
- possible applications of the results or of other research results related to the research question, and desirable or undesirable consequences of these.

The project is presented and discussed orally in a seminar.

Reading List

See separate document.

Examination

Assessment is based on the following mandatory components:

- A documented project plan
- An individual written report
- A seminar where the report is presented and discussed orally
- A seminar where a work of science is critically reviewed and discussed

All components are assessed in terms of content and ability to perform within given time limits. The examiner decides on submission dates for written reports and the seminar.

If students have a decision from Karlstad University entitling them to Targeted Study Support due to a documented disability, the examiner has the right to give such students an adapted examination or to examine them in a different manner.

Grades

One of the grades Fail (U), Pass (G), or Distinction (VG) is awarded in the examination of the course.

Quality Assurance

Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course evaluation is partly based on student views and experiences obtained in accordance with current regulations and partly on other data and documentation. Students will be informed of the result of the evaluation and of any measures to be taken.

Course Certificate

A course certificate will be provided upon request.

Additional information

The local regulations for studies at the Bachelor and Master levels at Karlstad University stipulate the obligations and rights of students and staff.