



Faculty of Health, Science and Technology
Chemistry

Syllabus

Scientific writing and theory in chemistry and chemical engineering C

Course Code:	KEGC71
Course Title:	Scientific writing and theory in chemistry and chemical engineering C <i>Vetenskapligt skrivande och vetenskapsteori inom kemi och kemiteknik C</i>
Credits:	7.5
Degree Level:	Undergraduate level
Progressive Specialisation:	First cycle, has at least 60 credits in first-cycle course/s as entry requirements (G2F)

Major Field of Study:
KEA (Chemistry)

Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2020-09-01, and is valid from the Spring semester 2021 at Karlstad University.

Prerequisites

Registered on 60 ECTS credits in Chemistry, with at least 45 ECTS credits completed (entire courses), or equivalent

Learning Outcomes

The aim of the course is for students to acquire in-depth knowledge of chemistry or chemical engineering through working with research and development projects, and develop the ability to identify and formulate complex research questions for such projects.

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

1. use scientific databases to find relevant literature in the form of research articles,
2. summarise and assess research literature in a specific area of chemistry or chemical engineering,
3. summarise the research frontier in a specific area of chemistry or chemical engineering,
4. write and defend an outline for a possible research or development project in the chosen area,
5. explain basic theory of science concepts, and
6. give an account of sound research practice.

Content

The following aspects are presented and discussed in the course:

- basic theory of science concepts and their relevance to research ethics,
- using research databases,
- research literature relevant for the chosen area of chemistry or chemical engineering,
- the need to obtain further knowledge,
- research articles in areas beyond the chosen area,
- conventions of reporting and publishing research results, including examples of different types of reports such as technical reports, original articles, and review articles,
- referencing and citations in research writing,
- plagiarism and copyright,
- project planning.

Students are expected to study individually and actively take responsibility for their own learning. Instruction is adjusted to the number of students and the chosen areas of chemistry and chemical engineering.

A number of mandatory seminars are scheduled.

Reading List

See separate document.

Examination

Assessment is based on:

- a hand-in theory of science assignment, discussed in seminars,
- peer review of a hand-in assignment,
- seminar discussion of a research article in chemistry or chemical engineering,
- a written review of research literature in the chosen area of chemistry or chemical engineering,
- oral presentation and discussion of the written review of research literature in a seminar,
- a project plan for a possible research or development project.

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 Distinction (VG), Pass (G), or Fail (U) 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.