



Faculty of Health, Science and Technology
Chemistry

Syllabus

Scientific writing and theory in chemistry and chemical engineering

Course Code:	KEAD71
Course Title:	Scientific writing and theory in chemistry and chemical engineering <i>Vetenskapligt skrivande och vetenskapsteori inom kemi och kemiteknik</i>
Credits:	7.5
Degree Level:	Master's level
Progressive Specialisation:	Second cycle, has only first-cycle course/s as entry requirements (A1N)

Major Field of Study:

KEA (Chemistry)

KTA (Chemical Engineering)

Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2017-09-14, and is valid from the Spring semester 2018 at Karlstad University.

Prerequisites

Upper secondary level Swedish 3 or B, or Swedish as a second language 3 or B, and English 6 or A, or equivalent.

Attended courses in chemistry or chemical engineering totalling 90 ECTS cr, including a completed independent project 15 ECTS cr, or equivalent.

MSc programme students in chemical engineering are required to have attended courses totalling 195 ECTS cr with 120 course credits completed, or equivalent.

Learning Outcomes

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

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

1. use appropriate databases to find relevant literature in the form of research articles,
2. summarise and assess research literature in a delimited area of chemistry or chemical engineering,
3. summarise the research front in a delimited area of chemistry or chemical engineering,
4. author and defend a well-founded 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 and discuss sound research practice.

Content

The following aspects are presented and discussed:

- basic theory of science concepts and their relevance to research ethics,
- using of research databases,
- research literature with relevance to the chosen area of chemistry or chemical engineering,
- the need to obtain further knowledge,
- research articles in areas beyond the chosen area,
- standard conventions in reporting and publishing research results,
- 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:

- hand-in assignment on theory of science, 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 seminar,
- a project plan for a possible research and development project.

Grades

One of the grades Distinction (VG), Pass (G), or Fail (U) is awarded in the examination of the course. Engineering programme students are awarded one of the grades 5 (Pass with Distinction), 4 (Pass with Some Distinction), 3 (Pass), or U (Fail).

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.