



Board of Teacher Education
Chemistry

Syllabus

Chemistry and Chemistry Education 4

Course Code:	KEAL91
Course Title:	Chemistry and Chemistry Education 4 <i>Kemi med didaktisk inriktning 4</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)

Course Approval

The syllabus was approved by the Board of Teacher Education 2017-09-04, and is valid from the Autumn semester 2018 at Karlstad University.

Prerequisites

Chemistry and Chemistry Education I, II and III totalling 90 ECTS with at least 75 ECTS credits completed, or equivalent.

Learning Outcomes

The aim of the course is that students acquire further knowledge of chemistry and chemistry education through a research and development project, and develop skills in identifying and formulating complex research and development problems.

Upon completion of the course, students should be able to

1. use science databases to find relevant literature in the form of research articles,
2. summarise and evaluate research literature in a limited area of chemistry education,
3. outline the research front in a limited area of chemistry education,
4. author and defend a well-founded synopsis for a planned research and development project in the chosen area,
5. explain basic theory of science concepts, and
6. give an account of and discuss good research ethics.

Content

The course comprises the following components:

- basic theory of science concepts and their relevance to research ethics
- using science databases
- research literature with relevance to the chosen area of chemistry education
- the need to acquire more knowledge

- research articles in a wider field than the chosen area
- standard practice in reporting and publishing research results,
- referencing and citing in academic writing
- plagiarism and copyright
- project planning.

Students are expected to work independently and actively, taking responsibility for their learning. Instruction varies with number of students and chosen areas.

Reading List

See separate document.

Examination

Learning outcomes 1 and 2: compilation of research literature in the chosen area, orally presented and discussed.

Learning outcome 3: seminar discussion of a research article in chemistry education.

Learning outcome 4: project plan for a research or development project in chemistry education.

Learning outcomes 5 and 6: hand-in assignment on theory of science and research ethics discussed in seminar and peer review of cohort assignment.

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.