



Faculty of Health, Science and Technology
Chemical Engineering

Syllabus

Research training in chemistry and chemical engineering

Course Code:

KTAD21

Course Title:

Research training in chemistry and chemical engineering

Forskningspraktik i kemi och kemiteknik

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 2025-08-25, and is valid from the Spring semester 2026 at Karlstad University.

Prerequisites

Registered for 180 ECTS credits in the Chemical Engineering Master programme, with 120 ECTS credits completed, or registered for 90 ECTS credits in Chemistry or Chemical Engineering, including an independent project of 15 ECTS credits at the G2E level or higher, plus upper secondary level Swedish 1 or Swedish level 1, or Swedish as a second language 1 or Swedish as a second language level 1, and English 6 or English level 2, or equivalent

Learning Outcomes

The aim of the course is for students to acquire insight into a current research and development project and further knowledge in chemistry or chemical engineering. Students

are also expected to develop abilities to argue for a position when the requirement specifications for a new product or a new process are partly contradictory, or give arguments for the chosen research questions and methods in a research or development project.

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

1. explain and give arguments for a research or development project in the chosen specialisation, its background, aim and methods used,
2. participate in and document the daily work in a research or development project,
3. explain and give arguments for the use of theories, experimental methods, and modelling methods relevant to a research or development project,
4. discuss and evaluate their own or others' results and correlations on the basis of existing theories, and
5. present and discuss science-based research and development work, orally and in writing.

Content

After consultation with the course convener, the student contacts a project manager to reach an individual agreement on a practical placement period.

The course comprises the following components:

- relevant literature study for the chosen research or development project
- participation in the daily activities
- documentation of experiences in the form of notes and reflections on daily activities in an extended lab journal
- participation in internal seminars and other meetings where research and development issues are discussed
- summary of journal notes and an oral presentation.

Reading List

See separate document.

Examination

Assessment is based on:

- an individual written report of the placement according to instructions
- an individual oral presentation in a seminar
- seminars and meetings with the research/development group

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. For students in Engineering, one of the grades 5 (Pass with Distinction), 4 (Pass with Some Distinction), 3 (Pass), or U (Fail) 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.