



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 <i>Forskningspraktik i 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 2017-08-24, and is valid from the Spring semester 2018 at Karlstad University.

Prerequisites

Chemistry or Chemical Engineering 90 ECTS cr, including an independent projects 15 ECTS cr., or equivalent

Master of Science in Engineering students with specialisation in Chemical Engineering: attended courses totalling 195 ECTS cr with 120 course credits completed, or equivalent.

Learning Outcomes

The aim of the course is that students get insights into a current research and development project and acquire further knowledge in chemistry and chemistry 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 for a research and development project.

Upon completion of the course, students should be able to

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

Content

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

The course comprises the following components:

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

Reading List

See separate document.

Examination

Assessment is based on:

- a written report of the placement according to given instructions
- an seminar presentation
- attendance at seminars and meetings with the research group and a written report on them.

Grades

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

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.