



LUND
UNIVERSITY

Faculty of Science

KEMP20, Chemistry: Project Work, 15 credits

Kemi: Projektarbete, 15 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2019-01-17 to be valid from 2019-01-17, spring semester 2019.

General Information

The course is an elective second-cycle component of a degree of Master of Science (120 credits) in Chemistry.

The project is to be carried out in one of the following specialisations.

- Organic Chemistry
- Inorganic Chemistry
- Biochemistry
- Molecular Biophysics
- Analytical Chemistry
- Physical Chemistry
- Theoretical Chemistry
- Chemical Physics

Language of instruction: English

Main field of studies

Chemistry

Depth of study relative to the degree requirements

A1F, Second cycle, has second-cycle course/s as entry requirements

Learning outcomes

The aim of the project is to enable students to acquire substantially specialised and additional knowledge in a subject-specific subarea and to practise using advanced chemical research methods and their ability to complete minor research projects with

a high degree of independence.

Knowledge and understanding

On completion of the course, the students shall be able to

- in an in-depth way describe methods applicable in the subject area as well as the possibilities and limitations of the methods
- demonstrate very good theoretical knowledge, understanding and problem-solving ability, which altogether entails substantial subject-specific specialisation
- master the procedure and critical approach of research methodology

Competence and skills

On completion of the course, the students shall be able to

- use literature or other information searches to independently collect, compile and assimilate the information required to process an issue scientifically
- execute a minor laboratory and/or theoretical research project with a high degree of independence and within a predetermined time frame
- conduct an appropriate risk assessment of subject-specific chemical work and demonstrate familiarity with the laws and ordinances governing such work
- demonstrate good skills in the independent planning, systematic documentation and compilation of experimental work
- demonstrate a specialised ability to independently and critically evaluate and analyse the results obtained, and discuss them from a broader perspective, thereby demonstrating their ability to contribute to knowledge development
- demonstrate specialised methodological, experimental and theoretical skills in relation to the issue
- present a scientific project orally and in writing, including issue, methods and results

Judgement and approach

On completion of the course, the students shall be able to

- interpret and assess the results obtained in order to perform both troubleshooting and appropriate control experiments during the process
- critically discuss and communicate their subject area with researchers in the international research community
- assess their need for knowledge and take responsibility for their ongoing learning within the subject area
- relate the issue to applicable scientific, societal and ethical aspects
- critically review and assess the relevance of scientific primary sources

Course content

The focus and design of the project are to be determined in consultation with the supervisor. The focus can be within one of the specialisations in chemistry listed in the section "General information" above. The project is to include literature studies mapping the background of the chosen topic and independent laboratory work and/or theoretical tasks. The student is to execute the project with a high degree of independence, including data collection and continuous documentation as well as

compilation, analysis and evaluation of the results obtained.

Course design

The course is implemented as a project planned in consultation with a supervisor having experience in the chosen subject area. The project can be conducted at one of the divisions of the Department of Chemistry or, subject to an agreement with the examiner, at another academic department or outside the University. It is the responsibility of the student to contact a research team or equivalent in order to find a suitable project and supervisor. The project is to be conducted under supervision, but with a high degree of independence. The practical work is to be documented in detail and in accordance with the procedures of the workplace.

The project is to be presented in writing in a scientific report and orally at a public seminar. Execution of the project, the scientific report and the oral presentation are compulsory components.

Assessment

The assessment is based on the scientific report and the oral presentation of the project.

The full report is to be submitted to the department for archiving.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, Pass, Pass with distinction.

For a grade of Pass on the whole course, the student must have passed the project report and the oral presentation.

The examiner/examining committee determine the grade to be awarded for the project in consultation with the supervisor. The final grade is determined by a weighted aggregate of the assessment of the execution of the project and the written and oral presentation.

Entry requirements

To be admitted to the course, students must meet the general entry requirements for higher education and requirements for English proficiency corresponding to English 6 from Swedish upper secondary school, and have passed courses in chemistry

comprising at least 105 credits, of which 15 credits must be from second-cycle courses in the same area as the project.

Students who have obtained the equivalent knowledge by other means may also be admitted to the course.

Subcourses in KEMP20, Chemistry: Project Work

Applies from V19

1901 Project Work, 15,0 hp
Grading scale: Fail, Pass, Pass with distinction