

KEMP3X, Chemistry: Project Work, 30 credits

Kemi: Projektarbete, 30 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2008-04-29 to be valid from 2007-07-01, autumn semester 2007.

General Information

The course is included in the main field of Chemistry at the Faculty of Science.

The course is an optional second-cycle course for a degree of Master of Science, main field of study Chemistry.

The project work is done in one of the specialisations stated below. For each specialisation the course code is also stated for the equivalent specialisation in the project work.

- KEMP31 Organic Chemistry
- KEMP32 Inorganic Chemistry
- KEMP33 Biochemistry
- KEMP35 Molecular Biophysics
- KEMP36 Analytical Chemistry
- KEMP37 Physical Chemistry
- KEMP38 Theoretical Chemistry
- KEMP39 Chemical Physics

Language of instruction: Swedish

When necessary, the course in full is given in 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 give the students the opportunity to gain highly specialised knowledge within a subject-specific area, to give training in advanced research methodology, as well as in independently running and implementing a

research project of limited scope.

On completion of the project, students shall be able to

- demonstrate excellent theoretical knowledge, understanding and problem solving abilities which, all together, mean considerable subject-specific specialisation
- demonstrate excellent experimental skills in practical laboratory work or theoretical calculations and thus display a respectable ability to participate in the creation of new knowledge, even in new or unfamiliar contexts and surroundings
- demonstrate good skills in planning and documenting experimental work
- carry out adequate risk assessments for subject-specific chemical work, and be very familiar with the laws and ordinances that regulate such work, as well as being able to reflect on and discuss the ethical aspects and social significance of such work and research.
- demonstrate great familiarity with the scientific method's work methodology and critical approach. This includes being able to scientifically test hypotheses, having good capabilities in assessing the quality of both their own and others' results, and being able to read, understand and critically review scientific primary publications
- demonstrate good abilities in using and conveying their knowledge in different forms in their area, including everything from report writing to oral presentations, and participate in free exchanges of opinion both with researchers in the international scientific area and with laymen in the surrounding society

Course content

The focus of the project work and its design are decided in consultation with the supervisor. The project may focus on any field of Chemistry, as described in section 2, and can be carried out in any unit in the Chemistry Department but may also be carried out at another higher education department or outside the university, after agreement with the examiner/grading committee. Work shall comprise literature studies that survey the background to the selected research task and contain laboratory and/or theoretical tasks.

Course design

The student carries out literature studies, establishes a project plan and performs a subject-specific research task under supervision.

Assessment

The project work concludes with a written report and a public oral presentation in the presence of the supervisor and examiner/grading committee.

The written report must contain an introduction to the selected task with relevant, complete references to the underlying literature, a material and methods section that enables the experiment to be repeated, and a presentation and discussion of the results achieved.

Before publication in the faculty database for project work an English summary and a short, popular science description in Swedish, intended for a wider audience, must be appended.

If the examiner judges that the work in its submitted form cannot be awarded a passing grade, the student will be given the opportunity to complete the work for further assessment.

Grades

Marking scale: Fail, Pass, Pass with distinction.

To pass the course students must have a pass on the written project report, a pass in the oral presentation, and material must have been submitted to the faculty's database.

The examiner/grading committee determines the grade after consultation with the supervisor. The final grade is decided through weighting the assessment of the project's implementation and the written and oral presentations.

The grade for material submitted to the faculty's database is Participated.

Entry requirements

To be eligible for this course students must have basic eligibility, English B, and at least 105 higher education credits in completed courses in Chemistry, of which at least 15 credits must be second-cycle courses with the same focus as the project work.

Equivalent knowledge that has been gained in another way also provides eligibility for the course.

Further information

Project work can be accredited as KEMR1X Chemistry: Master's Degree Project, 30 credits, if the eligibility requirements for such a degree project are fulfilled.