



Faculty of Health, Science and Technology

Programme Study Plan

Drug Analysis: Bachelor Programme in Chemistry

Programme Code:	NGKEA
Programme Title:	Drug Analysis: Bachelor Programme in Chemistry Läkemedelsanalys: Kandidatprogram i Kemi
HE/ECTS Credits:	180 ECTS credits
Approval:	The Programme Study Plan was approved by the Faculty Board of Health, Science and Technology on, 2018-02-01, and is valid from the autumn semester of 2018.
Language of Instruction:	Swedish and English
Degree Level:	Bachelor
Degree Type:	General
Prerequisites	General admission requirements and Physics 1a or 1b1 + 1b2, Chemistry 2, Mathematics 4/Mathematics D Optional courses may have different requirements.

Introduction

The programme offers foundational knowledge and skills in Chemistry and leads upon successful completion to a Bachelor of Science Degree with a Major in Chemistry. The programme has an orientation towards drug analysis, but students have the opportunity to choose courses to create their own degree profile.

The programme starts with three semesters of courses in chemistry and one course in mathematics. The following semesters comprise specialisation courses in chemistry and in drug analysis. Students have opportunities to study abroad.

Students at Karlstad University can continue studying at Master's and at doctoral level in chemistry.

Students can choose to study the programme on or off campus.

Aims

Bachelor level students are expected to

- develop their ability to make independent and critical assessments,
- develop their ability to define, formulate and solve problems, and
- develop their ability to deal with changes in working life.

In the field of study, students shall, beyond the knowledge and skills required, also develop their ability to

- seek and assess scientific knowledge,
- follow the knowledge development, and
- exchange information with non-experts in the field.

(Higher Education Act, Ch. 1, sect 2, SFS 2006:173)

The *Higher Education Ordinance, System of Qualifications (SFS 1993:100)* specifies the requirements for a specific qualification. The requirements for a Bachelor's Degree are:

Knowledge and understanding

For a Bachelor's degree students shall

- demonstrate knowledge and understanding in the main field of study, including knowledge of the scientific basis of the field, knowledge of appropriate methods in the field, deeper knowledge of some part of the field, together with insight into current research issues.

Competence and skills

For a Bachelor's degree students shall

- demonstrate ability to seek, collect, assess and critically interpret relevant information to a problem and critically discuss phenomena, issues and situations,
- demonstrate ability to independently identify, formulate and solve problems and to carry out tasks within specified time limits,
- demonstrate ability to present and discuss information, problems and solutions in dialogue with different groups, orally and in writing, and
- demonstrate the skills required to work independently in the area of the main field of study.

Judgement and approach

For a Bachelor's degree students shall

- demonstrate ability to make assessments in the main field of study, taking into account relevant scientific, social and ethical aspects,
- demonstrate insight into the role of science in society and people's responsibility for how it is used, and
- demonstrate ability to identify their need of further knowledge and to take responsibility for developing their competence

Independent project (degree project)

For a Bachelor's degree, students shall complete an independent project (degree project) of at least 15 higher education credits in the area of the main field of study.

Programme Structure

The programme comprises six semesters. In the first two semesters, students study foundational chemistry courses. The third semester includes a mathematics course and a specialisation course in chemistry. In the three last semesters mandatory courses alternate with optional or elective courses. The specialisation in drug analysis includes a project course of 30 ECTS credits in semester 5. In the last semester students carry out an independent project of 15, 22.5 or 30 ECTS credits. The programme prepares for further studies at Master level.

The drug analysis specialisation means that students upon completion are employable in the pharmaceutical industry, other chemical-technical industries and public agencies.

Distant students are required to attend mandatory on-campus meetings at Karlstad University, usually two to five days for each five-week course. Information on the number of days to attend for each course is provided in good time before each course start.

Educational progression is ensured in the way learning outcomes of courses from start to end are designed both to provide progressive specialisation of programme aims and to be assessed. The motivation for continuous programme improvements is the University's ambition to offer high quality education. Student evaluation and good alumni contacts as well as student participation in decision-making bodies are important instruments for development.

The societal relevance of programme studies is sustained through external cooperation and representation in preparatory and governing bodies in the faculty. Industrial contacts are established to link course components to current issues in industry. In the third-year course, content is linked to research in progress at Karlstad University.

Internationalisation

Karlstad University values cooperation and exchange with other universities and have partnership and exchange agreements with Swedish and foreign universities, as well as an organisation supporting incoming and outgoing students. Programme students have the opportunity to study abroad, preferably in semesters four or six.

Programme Curriculum

The first year comprises 60 ECTS credits of mandatory courses in chemistry. The chemistry courses treat foundational chemistry, biochemistry, organic chemistry, physical chemistry, analytical chemistry and the role of chemistry in society. In the third semester, students study mandatory courses in mathematics 15 ECTS credits and chemistry 15 ECTS credits. Through studying further specialisation courses in chemistry in semester four, students acquire a solid foundation in chemistry before taking the profile project course. Students may also choose other courses to create their degree profile in semester four. The third year starts with the profile project course dealing with drug analysis from various perspectives. In the last semester students carry out an independent degree project of 15, 22.5 or 30 ECTS credits. The opportunity to take electives in the last semester depends on the credit-size of the chosen degree project.

Degree Title

Degree of Bachelor of Science. Major: Chemistry

Transfer of credits

Students have the right to transfer credits from previously completed university courses in Sweden or abroad, subject to approval according to the current regulations.

Additional information

Scope of Education

The scope of the education is indicated in higher education credits (ECTS) with full-time studies for a normal 40-week academic year corresponding to 60 higher education credits (ECTS) (*Higher Education Ordinance*, Ch. 6 §2, SFS 2006:1053).

Moving up

Admission to courses in the programme requires that students meet the specified prerequisites as stated in the respective course syllabus.

Local regulations

The local regulations for first and second cycle education at Karlstad University stipulate the obligations and rights of students and staff.

Student expulsion procedures

As stipulated in the *Higher Education Act Chapter 2*, sect. 6, *SFS 1992: 1434*, and Regulations of Student Expulsion from Higher Education *SFS 1987: 915*, a student who suffers from mental disorder, abuses alcohol or drugs, or has been guilty of a serious offence endangering others or valuable property can be expelled until further notice. In such a case, the Rector files a complaint to the Expulsion Board of Higher Education, which investigates the matter and makes a decision. A decision of expulsion shall always entail that the student must discontinue the education until further notice. The Expulsion Board of Higher Education is responsible for all Swedish higher education institutions.

Disciplinary matters

According to the *Higher Education Ordinance*, disciplinary measures may be taken against students when they attempt to deceive in assessment of study performance, disrupt or obstruct teaching, testing or other activities that are part of courses, disrupt activities at the library or other establishment at the university, or subject other students or staff to harassment (see *Guidelines for Handling Disciplinary Matters* at Karlstad University).