Analytical Environmental Chemistry

Analytisk miljökemi
7.5 credits

Programme course

746G26

Valid from: 2024 Autumn semester

Determined by	**Main field of study**	
The Quality Board at the Faculty of Arts and Sciences	Environmental Science	
Date determined	**Course level**	**Progressive specialisation**
2009-08-24	First cycle	G1F
Revised by	**Disciplinary domain**	
Chairman of the Course and Programme Syllabus Board at the Faculty of Arts and Sciences	Natural sciences	
Revision date	**Subject group**	
2022-10-19; 2024-06-19	Environmental Science	
Offered first time	**Offered for the last time**	
Autumn semester 2009		
Department	**Replaced by**	
Institutionen för Tema		

Course offered for

- Bachelor´s Programme in Environmental Science

Entry requirements

- Environmental Science and Sustainable Development, basic course, 7.5 credits.
- Scientific Theories and Methods in Environmental Science, basic course, 15 credits.
- Biogeochemistry and Environmental Analysis, continuation course, 15 credits whereof 9.5 credits are laboratory teaching activities.

Intended learning outcomes

On completion of the course, the student should be able to:

- explain and use the most commonly used chemical and microbiological analytical techniques in environmental monitoring
- evaluate and critically review the possibilities and limitations of modern analytical techniques
- plan and carry out representative samplings and analyses of tests
- describe and analyse the principles that constitute the basis for quality assurance and accreditation of laboratories in the field of environmental analysis

Course content

The contents of the course consist of the theories behind, and practical application of, spectroscopic, chromatographic, wet-chemical, electrochemical and microbiological analytical techniques. Quality assurance procedures for chemical and biological analysis work constitute another part of the course. The importance of the sampling technique for the reliability of the analysis results is also an important part of the contents.

Teaching and working methods

This course utilises work in tutorial group, lectures, seminars, workshops, laboratory sessions and field studies. Additional resource sessions may be organised in the course. If necessary, the course may be taught in English.The students should also study independently.

Examination

The course is examined by:

- active participation in laboratory work, field work and seminars, grading scale: UG
- written group assignments, grading scale: UG
- individually written assignments, grading scale: UV

For an approved final grade, at least G is required on all examination elements. For a higher grade at least 50 % is required on the individually written assignments.

Detailed information about the examination can be found in the course's study guide.

If special circumstances prevail, and if it is possible with consideration of the nature of the compulsory component, the examiner may decide to replace the compulsory component with another equivalent component.

If the LiU coordinator for students with disabilities has granted a student the right to an adapted examination for a written examination in an examination hall, the student has the right to it.

If the coordinator has recommended for the student an adapted examination or alternative form of examination, the examiner may grant this if the examiner assesses that it is possible, based on consideration of the course objectives.

An examiner may also decide that an adapted examination or alternative form of examination if the examiner assessed that special circumstances prevail, and the examiner assesses that it is possible while maintaining the objectives of the course.

Students failing an exam covering either the entire course or part of the course twice are entitled to have a new examiner appointed for the reexamination.

Students who have passed an examination may not retake it in order to improve their grades.

Grades

Three-grade scale, U, G, VG

Other information

Planning and implementation of a course must take its starting point in the wording of the syllabus. The course evaluation included in each course must therefore take up the question how well the course agrees with the syllabus.

The course is conducted in such a way that there are equal opportunities with regard to sex, transgender identity or expression, ethnicity, religion or other belief, disability, sexual orientation and age.

If special circumstances prevail, the vice-chancellor may in a special decision specify the preconditions for temporary deviations from this course syllabus, and delegate the right to take such decisions.