

**SYLLABUS**

# **Senior Design Project in Applied Geology 30 credits L7004K**

**Projektkurs i tillämpad geologi**

**Course syllabus admitted: Autumn 2023 Sp 1 - Present**

**DECISION DATE  
2022-02-11**

# Senior Design Project in Applied Geology 30 credits L7004K

## Projektkurs i tillämpad geologi

### Second cycle, L7004K

Education level	Grade scale	Subject	Subject group (SCB)
Second cycle	G U 3 4 5	Geovetenskap	Earth Science and Physical Geography

## Entry requirements

90hp in natural resources engineering or equivalent, of which 30 credits environmental geochemistry or equivalent. Good knowledge in English, equivalent to English 6.

## Selection

The selection is based on 30-285 credits

## Course Aim

The student should independently design, implement and report on a project in the subject of geochemistry.

*This means that the student after completing the course should:*

- be able to formulate a relevant purpose based on a given problem in geochemistry
- seek and critically examine information, summarize and structure it in a scientific way.
- demonstrate a very good ability to plan, structure and carry out a theoretical and practical research project within given time frames independently
- demonstrate a very good ability to critically review and refer to relevant research and development work within the specific project
- demonstrate very good ability to structure, analyze, interpret and visualize geochemical data using available modeling, interpretation and visualization tools in a scientific way independently
- demonstrate a very good ability to critically examine the scientific and practical relevance of the results obtained
- demonstrate a very good ability to write a scientific report or article
- demonstrate a very good ability to carry out an oral presentation of the project's results, argue and defend the achieved conclusions for relevant stakeholders.

## Contents

The course covers the following areas:

Introduction of the course objectives, description of available projects and stakeholders in the subject of geochemistry.

Planning projects, defining goals, formulating activities and time schedule. Content is designed in dialogue with the examiner, supervisor, and stakeholders.

Introduction of oral and written presentation requirements, presentation of available tools for structuring, interpreting and visualizing data

Project implementation, which may include laboratory- or field work or work with existing data. Study and summarize relevant scientific research as a basis for planning, implementation and reporting of projects. Structure, analyze, interpret, and visualize geochemical data using available modeling, interpretation and visualization tools in a scientific way

Written presentation of work in a scientific way

Oral presentation of work to relevant stakeholders in a scientific way.

## Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

The student works independently under supervision with planning of laboratory work and field work in collaboration with stakeholders involved in the project. Analytical surveys and fieldwork are planned together with stakeholders and supervisors. Regular meetings with supervisor take place throughout the project period. Project implementation includes independently laboratory or fieldwork as well as searching for and summarizing scientifically relevant references and using available tools for interpretation, modeling and visualization of geochemical data in a scientific way.

The written presentation can be a report or scientific article, which is determined in consultation between student and supervisor. Oral and written presentation for relevant stakeholders and the research group within Applied Geochemistry. Oral and written presentation must be well processed and based on scientific knowledge, with relevant references, and scientific interpretation and description of geochemical data.

## Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. All goals are examined and assessed in both a written presentation and in the oral presentation.

## Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term "unauthorized aids" refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

## Transition terms

2500

## Course offered by

Department of Civil, Environmental and Natural Resources Engineering

## Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0001	Passed oral and written presentation	G U 3 4 5	30	Mandatory	A07	Yes

## Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

## Last revised

by Assistant Director of Undergraduate Studies Eva Gunneriusson, Department of Civil, Environmental and Natural Resources Engineering 2022-02-11

## Syllabus established

Course plan approved by the Department of Chemical Engineering and Geosciences 2007-02-28.