

# Syllabus

for course at first level

**Basics of Geochemistry**  
**Geokemins grunder**

**7.5 Higher Education  
Credits**  
**7.5 ECTS credits**

<b>Course code:</b>	GG2205
<b>Valid from:</b>	Spring 2018
<b>Date of approval:</b>	2017-01-16
<b>Department</b>	Department of Geological Sciences
<b>Subject</b>	Earth Science and Physical Geography
<b>Specialisation:</b>	G1N - First cycle, has only upper-secondary level entry requirements

## Decision

This syllabus was approved by the Faculty of Science at Stockholm University 2017-01-16

## Prerequisites and special admittance requirements

Swedish upper secondary school courses Mathematics D, Physics B and Chemistry B, or equivalent.

## Course structure

Examination code	Name	Higher Education Credits
HELA	Basics of Geochemistry	7.5

## Course content

The course gives an introduction to geochemistry to understand and explain the geological processes.

The course covers:

- chemical composition of the Earth and the solar system
- application of thermodynamic laws in geochemistry
- dynamics of natural gases in geosystems
- acids, bases, and buffer systems in natural waters
- redox processes in natural waters
- introduction to organic geochemistry
- introduction to isotope geochemistry

## Learning outcomes

After completing the course, the student will:

- have an insight into the chemical composition of Earth and the solar system
- understand the distribution and reactions of natural gases in geosystems
- understand how acids, bases, and buffer systems regulate pH in natural waters
- have basic knowledge about organic geochemistry and its application in the geosciences
- have basic knowledge of stable and radiogenic isotopes and their application to geosciences
- have

## Education

Instruction consists of lectures and exercises. Participation in exercises is compulsory.

In the event of special circumstances, the examiner may, after consultation with the teacher concerned, grant a student exemption from the obligation to participate in certain compulsory instruction. The teaching language is English or Swedish.

### **Forms of examination**

a. Knowledge assessment and examination are in the form of written examinations.

If the teaching language is English, the examination may also be in English.

b. Grades will be set according to a seven-point scale related to the learning objectives of the course:

A = Excellent

B = Very good

C = Good

D = Satisfactory

E = Adequate

Fx = Fail, some additional work required

F = Fail, much additional work required

c. The grading criteria will be distributed at the beginning of the course.

d. In order to pass the course, students must receive the minimum passing grade E on all course units and participate in all mandatory instruction.

e. Students who receive a failing grade on a regular examination are allowed to retake the examination as long as the course is still provided. The number of examination opportunities is not limited. Other mandatory course elements are equated with examinations. A student who has received a passing grade on an examination may not retake the examination to attain a higher grade. A student who has failed the same examination twice is entitled to have another examiner appointed, unless there are special reasons to the contrary. Such requests should be made to the department board.

f. There is no facility to improve the grade Fx to a pass grade in this course.

### **Interim**

Students may request that the examination be conducted in accordance with this course plan even after it has ceased to be valid. However, this may not take place more than three times over a two year period after course instruction has ended. Requests must be made to the department board.

### **Limitations**

The course may not be included in a degree in combination with the courses Geochemistry I 15 credits (GG2001/GG2011) and Geochemistry 7.5 credits (GG2012).

### **Misc**

The course is part of the Bachelor's Programme in Geology, Geochemistry and Geophysics and the Bachelor Programme in Earth Science, but can also be read as a separate course.

The course may include field trips that can entail costs for the student.

### **Required reading**

The course literature is decided by the department board and published on the Department of Geological Sciences website at least two months before the start of the course.