Department of Geological Sciences

Stockholm University

Syllabus

for course at first level

Global Geochemical Cycles
Globala geokemiska cykler

7.5 Higher Education Credits
7.5 ECTS credits

Course code:	GG4209
Valid from:	Autumn 2018
Date of approval:	2017-01-16
Department	Department of Geological Sciences
Main field:	Earth Sciences
Specialisation:	G1F - First cycle, has less than 60 credits in first-cycle course/s as entry requirements

Decision

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

Prerequisites and special admittance requirements

Admission to the course requires completion of 30 credits in Geology or Earth science, including the course Geology and geophysics 15 credits and Basics of Geochemistry 7,5 credits (GG2205), or Tellus I - Geology 15 credits, Tellus II - Geology 12.5 credits, Tellus III - Geology 2.5 credits and Geochemistry 7.5 credits (GG2012), or equivalent.

Course structure

Examination code	Name	Higher Education Credits
HELA	Global Geochemical Cycles	7.5

Course content

The course covers:
• global geochemical cycles
• the exchanges and linkages between the atmosphere, hydrosphere, lithosphere and the Earth's interior.
• origin and evolution of the Earth's chemistry to give an overview of geochemical processes, flows and feedbacks
• the interaction between the Earth's various constituents to explain how the global geochemical cycles interact and regulate the composition of the atmosphere and oceans
• the effects of human impact on the global cycles

Learning outcomes

After completing the course, the student is expected to be able to:
• begin to understand how the global geochemical cycles interact and regulate the composition of the atmosphere and oceans
• be able to use this knowledge to analyze the most important basic information on global cycles, especially biologically important elements
• explain and understand how humans affect global geochemical cycles
• have the ability to critically read basic scientific literature and understand methods and their limitations
• be able to formulate and solve simple geochemical problems, such as mass balances and residence times in different spheres

Education
The course consists of lectures and exercises.
Participation in exercises, seminars and in any associated integrated instruction 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.

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

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.

g. 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. The provision also applies in the case of revisions to the course plan.

Limitations
The course may not be included in a degree in combination with the course Global Geochemical Cycles 7.5 credit (GG4024/GG5004/GG4124/GG5104), or equivalent.

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.