

# Syllabus

for course at first level

**Introduction to geomicrobiology**

**Introduktion till geomikrobiologi**

**7.5 Higher Education**

**Credits**

**7.5 ECTS credits**

<b>Course code:</b>	GG4028
<b>Valid from:</b>	Autumn 2011
<b>Date of approval:</b>	2011-03-21
<b>Department</b>	Department of Geological Sciences
<b>Main field:</b>	Earth Sciences
<b>Specialisation:</b>	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 2018-03-21

## Prerequisites and special admittance requirements

For admission to the course, knowledge equivalent to 15 credits in geology or earth science is required.

## Course structure

<b>Examination code</b>	<b>Name</b>	<b>Higher Education Credits</b>
HELA	Introduction to geomicrobiology	7.5

## Course content

The course covers:

- Relevant background in microbiology and microbial metabolism
- The lithosphere and hydrosphere as microbial habitat
- Geomicrobiology of different elements
- Microbial weathering and biomineralisation
- Industrial and environmental applications of geomicrobiology (e.g., biomining, bioremediation, water treatment)
- Microbes on early Earth (and possibly on other planets)

## Learning outcomes

After completing the course, the student is expected to be able to:

- Have knowledge of the principal terminology in geomicrobiology
- Portray different microbial processes that are involved in the biogeochemical cycle of metals
- Relate how microorganisms influence the dissolution and precipitation of minerals
- Convey how geomicrobiological processes at the molecular level have far-reaching effects at the global level
- Illustrate how different geomicrobiological processes can be applied in industry

## Education

The course is given as a distance course. Seminars may occur. The teaching consists of web-based teaching opportunities. Participation in web-based teaching sessions and lectures 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 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. The course has at least two examination sessions per academic year the year of tuition given. Intermediate years are given at least one examination.
- 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. The provision also applies in the case of revisions to the course plan.

### **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.

### **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.