

# Syllabus

for course at advanced level

**Advanced Hydrogeology**  
**Avancerad hydrogeologi**

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

<b>Course code:</b>	GE8033
<b>Valid from:</b>	Spring 2020
<b>Date of approval:</b>	2019-08-19
<b>Department</b>	Department of Physical Geography
<b>Main field:</b>	Physical Geography and Quaternary Geology
<b>Specialisation:</b>	A1F - Second cycle, has second-cycle course/s as entry requirements

## Decision

This syllabus has been approved by the Board of Science at Stockholm University 2018-08-20.

## Prerequisites and special admittance requirements

Competence equivalent to at least 90 ECTS credits in Earth sciences, biology-earth sciences, geography, environmental sciences or equivalent science or technical major is required and that must include Geographic Information Systems (GIS) 7.5 ECTS credits. Also required is knowledge equivalent to Local to Global Water Vulnerability and Resilience, 15 ECTS credits (GE7025) or Mathematics 7.5 ECTS credits, and in addition either hydrology 7.5 ECTS credits or hydrogeology 7.5 ECTS credits. Swedish upper secondary school courses English B/English 6 and Mathematics D.

## Course structure

Examination code	Name	Higher Education Credits
HELA	Advanced Hydrogeology	7.5

## Course content

The course covers theory relevant for advanced studies and research within the field of hydrogeology and groundwater resources. The goal of the course is to strengthen the knowledge base of students beyond introductory level by investigating the scientific research frontier regarding three central themes of research in hydrogeology: Soil water and groundwater, subsurface transport of waterborne substances (tracers, nutrients, contaminants), and groundwater resource variability and change.

## Learning outcomes

Upon completion of the course, students are expected to be able to:

- integrate hydrogeological theory and scientific practice
- set up and solve problems related to soil water and groundwater flow, waterborne transport, and groundwater resource variability and change.

## Education

Instruction consists of lectures, seminars, exercises and project work.

Participation in seminars, exercises, project work and 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.

Instructions are in English.

### **Forms of examination**

a. The course is examined as follows: Knowledge assessment takes the form of:

- Written and oral presentations of project work

Examination is 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 a passing grade 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 includes at least two examination opportunities per year when the course is given. At least one examination opportunity will be offered during a year when the course is not given.

f. Students awarded the grade Fx are given the opportunity to improve their grade to E. The examiner decides the supplementary assignments to be performed and the pass mark criteria. The supplementary assignments will take place before the next examination session.

### **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 departmental board. The provision also applies in the case of revisions to the course plan and the revisions of the course literature.

### **Misc**

The course is offered as a separate course.

### **Required reading**

The course literature is decided by the department board and published on the Department of Physical Geography's website at least two months before the start of the course.