

Syllabus

for course at advanced level

Water Management and Pollution

Vattenresursförvaltning och föroreningsspridning

15.0 Higher Education

Credits

15.0 ECTS credits

Course code:	GE8035
Valid from:	Spring 2022
Date of approval:	2020-08-17
Department	Department of Physical Geography
Main field:	Physical Geography and Quaternary Geology
Specialisation:	A1F - Second cycle, has second-cycle course/s as entry requirements

Decision

This course syllabus was approved by the Board of Science at Stockholm University on 17/08/2020.

Prerequisites and special admittance requirements

For admission to the course, knowledge is required equivalent to Water Resources Sustainability, 15 credits (GE7086). Swedish upper secondary school course English 6 or equivalent.

Course structure

Examination code	Name	Higher Education Credits
DEL1	Water Resources Management	7.5
DEL2	Pollutant Transport and Environmental Management	7.5

Course content

a. The course includes

- methods for integrated water resources and environmental management
- International environmental legislation for integrated water resources and environmental management
- ecological economics and its application to water resources and environmental management
- assessment and management of uncertainty, probability and risk in water systems

b. The course consists of the following modules:

1. Water Resources Management, 7.5 ECTS credits

This unit includes modelling of water allocation in water systems and the solving of cases dealing with water resources based on examples from research articles. The course also covers ecological economics applied to water resources management.

2. Pollutant Transport and Environmental Management, 7.5 ECTS credits

This unit includes the modeling of mass flows of pollutants in hydrological basins. The course also covers European environmental legislation dealing with water-borne pollution.

Learning outcomes

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

- identify and compile in relevant model systems the flows of water, solutes and pollutants that integrate water and socio-economic systems, and explain and categorize the main methods and constraints for the quantification and these flows (module 1, module 2)
- identify and explain key natural and technological implications of policies, policy instruments and

management of water resources and the environment (module 1, module 2)

- explain the needs and distinguish and compare different methods for quantifying and managing uncertainty, probability and risk in policy and legislation of water resources and environmental management (module 2)

Education

The education consists of lectures, seminars, exercises, project work and presentations.

Instructions are in English.

Forms of examination

a. The course is examined as follows:

- Assessment of module 1 and module 2 takes place through written exams, written examination of projekt works and written exams of exercises.

The examiner can decide on adapted or alternative examination formats for students with disabilities.

Late submission of the individual assignment/take-home examination has consequences for the final grade of the course. These consequences are described in detail in the grading criteria of the course.

The examination will be conducted in English.

b. A passing final grade requires participation in seminars and exercises. If special reasons exist, following consultation with the teacher involved, the examiner may grant the student exemption from the obligation to participate in certain compulsory instruction.

c. Grading: The course's final grade is set according to a seven-point criterion-referenced scale:

A = Excellent

B = Very good

C = Good

D = Satisfactory

E = Adequate

Fx = Failed, some additional work is required

F = Failed, much additional work is required

Grades of module 1 and module 2 will be set according to a seven-point criterion-referenced scale.

A passing final grade requires passing grades on all included parts.

The final grade of the course is determined by weighing the grades from module 1 and module 2, where each grade is weighed in relation to the scope of the course modules.

d. The course's grading criteria are handed out at the start of the course.

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 three examination opportunities per academic year the course is offered. For the academic years that the course is not offered, at least one examination opportunity is offered

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

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 the course was discontinued. Requests must be made to the departmental board. The provision also applies in the case of revisions of the course syllabus and revisions of the required reading.

Limitations

This course may not be included in a degree together with the courses Integrated Land-Water Systems

(NK3280), Land-Water Risk Assessment and Management Methods (GE8009/GE8031) or with equivalent courses.

Misc

The course is part of the Master's Programme in Hydrology, Hydrogeology and Water Resources but can also be read as a separate course.

Required reading

The required reading is decided by the department board and published on the Department of Physical Geography's website at least 2 months before the start of the course.