

Syllabus

for course at advanced level

Local to Global Water Vulnerability and Resilience
Vattenresursers sårbarhet och resiliens, lokalt till globalt

**15.0 Higher Education
Credits**
15.0 ECTS credits

Course code:	GE7025
Valid from:	Autumn 2008
Date of approval:	2006-09-27
Changed:	2008-09-17
Department	Department of Physical Geography
Subject	Earth Science and Physical Geography
Specialisation:	A1N - Second cycle, has only first-cycle course/s as entry requirements

Decision

This syllabus has been approved by the Board of the Faculty of Science at Stockholm University 2006-09-27 and has been revised 2007-10-25, 2008-09-17.

Prerequisites and special admittance requirements

Admission to the course requires knowledge equivalent to at least 90 ECTS credits in Earth sciences, geography, biology-earth sciences, environmental sciences or equivalent science or civil engineering competence is required. Swedish upper secondary school courses Mathematics D and at least 7,5 ECTS credits in Statistics. Swedish upper secondary school course English B/English 6.

Course structure

Examination code	Name	Higher Education Credits
MOM1	Theory	1
MOM2	Seminars and Computer Exercises	1
STU1	Case Study 1	7
STU2	Case Study 2	6

Course content

a. The course is based on case studies. Such analyzes are required many professional situations since many different social, environmental and industrial problems are directly related to water issues. These issues are, for instance, on the agenda in international conflict management, environmental management by governmental agencies, environmental policy, and industrial and agricultural impact assessments. The course covers: * Water resources and water quality: regional to global changes and differences of availability of and demand for clean freshwater, transboundary national and international water resource management, environmental policies, interest conflicts and dialog processes. * Water quantity: water availability, water supply, water balance, relations to energy supply, agriculture, industry, safety, climate change and ecosystems * Water pollution: different types of water pollution, point sources and diffuse sources, pollution transport by and in different water and soil systems, physical/chemical/biological reactions and natural purification along transport pathways.

b. The course includes the following elements: Theory (1hp), Seminars and computer exercises (1hp), Case study 1 (7hp), Case study 2 (6hp)

Learning outcomes

It is expected that the student after taking the course will be able to:

- * relate and estimate relations between upstream water abstraction, pollutions and measures and downstream effects on water availability and water quality
- * identify , extract and combine relevant information and data for analysis and estimation of water quantity and water quality issues on local, regional and global scale
- * relate physical, chemical and geographical relations between upstream and downstream water bodies to national and international policies and management of water resources (including dialog and conflict-avoiding strategies)

Education

The education consists of lectures, group work, seminars, (computer) exercises, project work and presentations.

Participation in seminars, project work and exercises, and in all education associated with these is compulsory. An examiner may rule that a student is not obliged to participate in certain compulsory education if there are special grounds for this after consultation with the relevant teacher.

Forms of examination

a. Examination for the course is in the following manner:

Measurement of knowledge for elements 3 and 4 takes place through written and/or oral examination and written and/or oral presentations of project work.

b. Grading is carried out according to a 7-point scale related to learning objectives:

A = Excellent

B = Very Good

C = Good

D = Satisfactory

E = Sufficient

Fx = Fail

F = Fail

c. Grading criteria for the course will be distributed at the start of the course.

d. A minimum grade of E is required to pass the course, together with:

- pass of elements 1 and 2
- participation in all compulsory education.

e. Students who fail to achieve a pass grade in an ordinary examination have the right to take at least further four examinations, as long as the course is given. The term “examination” here is used to denote also other compulsory elements of the course. Students who have achieved a pass grade on an examination may not retake this examination in order to attempt to achieve a higher grade. Students who have failed to reach a pass grade on two occasions have the right to request that a different teacher be appointed to set the grade of the course. A request for such appointment must be sent to the departmental board.

Interim

Students may request that the examination is carried out in accordance with this syllabus even after it has ceased to apply. This right is limited, however, to a maximum of three occasions during a two-year-period after the end of giving the course. A request for such examination must be sent to the departmental board.

Limitations

The course may not be included in a degree together with the previous courses Soil and water (NG8430) and Water Resources and Water Conflicts (NK3020)/ Water Resources, Water Cooperation and Water Conflicts (NK3920).

Misc

The course is part of the master's programme in hydrology, hydrogeology and water resources, and it can also be taken as an individual course.

Required reading

Course literature is decided by the department board and is described in an appendix to the syllabus.