

# Syllabus

for course at advanced level

**Biogeochemical Cycles**  
**Biogeokemiska kretslopp**

**15.0 Higher Education  
Credits**  
**15.0 ECTS credits**

<b>Course code:</b>	MO7014
<b>Valid from:</b>	Spring 2010
<b>Date of approval:</b>	2010-01-25
<b>Department</b>	Department of Meteorology
<b>Main field:</b>	Meteorology
<b>Specialisation:</b>	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 2010-01-25.

## Prerequisites and special admittance requirements

Knowledge corresponding to a Bachelor's degree in Meteorology, Geoscience, Geology, Chemistry, Physics, Biophysics or Biogeoscience. Also required is knowledge equivalent to English B.

## Course structure

Examination code	Name	Higher Education Credits
MOM1	Theory	7.5
MOM2	Seminar Task	7.5

## Course content

This course deals with the Earth's climate system, encompassing its biogeochemical cycles and their influence on the climate. The course has a strong inter-disciplinary profile and includes the Earth's geological history, global and Baltic Sea perspectives on biogeochemical cycles, and the human influence on the natural cycles. A seminar task, where the participants in association with a supervisor study a specific topic in depth, is an important course element.

## Learning outcomes

After attending the course the student should be able to:

- account for the role of the lithosphere, pedosphere, hydrosphere, atmosphere, and biota in the climate system
- apply fundamental physical, chemical, geological, and biological concepts to describe the global cycles of water, carbon, oxygen, nitrogen, sulphur, and trace elements
- account for possible feedback mechanisms in global and regional biogeochemical cycles
- account for and scientifically evaluate hypotheses concerning biogeochemical cycles and related feedback mechanisms in the climate system

## Education

The teaching consists of lectures and an oral presentation of a seminar task. Exercises, laborations and term papers may occur. Participation in the seminars and the oral presentation are compulsory. If there are special reasons, the Examiner may, after consulting the course teacher, allow the student to omit certain parts of the compulsory teaching.

### **Forms of examination**

a) Examination is done by a written test. b) Grading is done on a seven-step scale: A=excellent B=Very good C=Good D=Satisfactory E=Sufficient F=Unsatisfactory Fx=Entirely unsatisfactory. c) The grading criteria are handed out at the beginning of the course. d) For passing the course, at least grade E is required, as well as passed oral and/or written presentations of laborations and participation in compulsory teaching. e) Students that do not pass the regular test have a right to attempt at least four further tests as long as the course is given. As "tests" are understood also other compulsory parts of the course. Students that have passed a test are not allowed to attempt another test in order to receive a higher grade. Students that have failed an examination twice have a right to demand that another teacher is appointed to determine the grade. The request for this should be directed to the Board of the department.

### **Interim**

Students may demand that the examination is performed according to this syllabus even after it has ceased to be valid. However, this may be done at most three times during the two years after the course was last given. The request for this should be directed to the Board of the department.

### **Limitations**

The course may not be included in a degree together Biogeochemical cycles, 10p (ME6040), Biogeochemical cycles, 7.5hp (MO7013).

### **Misc**

The course is a part of the Master's programme in Meteorology, Oceanography and Climate, but may also be taken as an individual course.

### **Required reading**

The course literature is decided by the Board of the department, and is then presented in an attachment to the course syllabus.