



DEPARTMENT OF EARTH SCIENCES

GVK470 Biogeochemistry, 15 credits

Biogeokemi, 15 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Department of Earth Sciences on 2021-12-13 to be valid from 2022-08-29, autumn semester of 2022.

Field of education: Science 100%

Department: Department of Earth Sciences

Position in the educational system

The course includes 15 credits at master's level. The course is offered as an elective course subject to availability.

The course can be part of the following programmes: 1) Atmosphere, Climate and Ecosystems, Master's Programme (N2ACE), 2) Environmental Sciences (N2MVN) and 3) Master's Programme in Earth Sciences (N2GVS)

Main field of studies

Biology

Chemistry

Earth Sciences

Environmental Science

Specialization

A1N, Second cycle, has only first-cycle course/s as entry requirements

A1N, Second cycle, has only first-cycle course/s as entry requirements

A1N, Second cycle, has only first-cycle course/s as entry requirements

A1N, Second cycle, has only first-cycle course/s as entry requirements

Entry requirements

For admission to the course, 180 credits, and at least 90 credits in the main field of Earth Sciences, Environmental Science, Chemistry or Biology is required.

Learning outcomes

On successful completion of the course the student will be able to:

Knowledge and understanding

- describe the processes that govern the different biogeochemical cycles.
- understand the microbial control of biogeochemical cycles and greenhouse gas emissions.

Competence and skills

- assess, reflect and critically examine scientific literature within the area.
- apply current methods within the area.

Judgement and approach

- explain the relation between biogeochemical cycle and global environmental change.
- critically analyze and evaluate the measures taken by society in order to solve environmental problems related to biogeochemical cycles.

The course is sustainability-related, which means that at least one of the learning outcomes clearly shows that the course content meets at least one of the University of Gothenburg's confirmed sustainability criteria.

Course content

The course provides knowledge about fundamental biogeochemical processes and global biogeochemical cycles. Key topics are:

- The biogeochemical production and consumption of greenhouse gases (carbon dioxide, methane, nitrous oxide)
- The links between biogeochemical processes and global environmental changes (such as climate warming and eutrophication).

The course addresses biogeochemical cycles in the Earth System as a whole, including atmosphere, biosphere, lithosphere and hydrosphere.

Form of teaching

The teaching combines lectures with seminars and practical work (e.g., exercises, field excursions). These practical sections aim to give an overview of methods used within

biogeochemistry.

Language of instruction: English

Assessment

Moment 1 Theory, 7 credits: U/G/VG

Moment 2 Workshop, 1 credits: U/G/VG

Moment 3. Exercises, 7 credits: U/G/VG

A student who has taken two exams in a course or part of a course without obtaining a pass grade is entitled to the nomination of another examiner. The student needs to contact the department for a new examiner, preferably in writing, and this should be approved by the department unless there are special reasons to the contrary (Chapter 6 Section 22 of the Higher Education Ordinance).

If a student has received a recommendation from the University of Gothenburg for special educational support, where it is compatible with the learning outcomes of the course and provided that no unreasonable resources are required, the examiner may decide to allow the student to sit an adjusted exam or alternative form of assessment.

In the event that a course has ceased or undergone major changes, students are to be guaranteed at least three examination sessions (including the ordinary examination session) over a period of at least one year, but no more than two years, after the course has ceased/been changed. The same applies to placements and professional placements (VFU), although this is restricted to just one additional examination session.

Grades

The grading scale comprises: Pass with Distinction (VG), Pass (G) and Fail (U).

To achieve the grade Pass (G) for the entire course the grade Pass (G) is required for all examinations. To achieve the grade Pass with Distinction (VG) for the entire course the grade Pass with Distinction (VG) is required for all examinations.

Course evaluation

The students are given the opportunity to make an anonymous written evaluation of the course.

The results of and possible changes to the course will be shared with students who participated in the evaluation and students who are starting the course.

Additional information

The excursion can incur certain additional cost for the students. According to the policy of the department, students who participate in the excursion will pay up to 200 SEK / night for transport and housing.