



DEPARTMENT OF BIOLOGICAL AND ENVIRONMENTAL SCIENCES

ESD200 Environment, nature and sustainable development in an educational perspective, 15 credits

Miljö, natur och hållbar utveckling i ett utbildningsperspektiv, 15 högskolepoäng
Second Cycle

Confirmation

This course syllabus was confirmed by Department of Biological and Environmental Sciences on 2018-02-19 and was last revised on 2019-08-08 to be valid from 2019-08-08, autumn semester of 2019.

Field of education: Technology 17%, Science 66% and Education 17%

Department: Department of Biological and Environmental Sciences

Other participating department

Department of Pedagogical, Curricular and Professional Studies

Position in the educational system

Included in Master's (120 credits) programme Education for sustainable development S2ESD. In case of a vacancies the course is given also as a freestanding course.

The course can be part of the following programme: 1) Education for Sustainable Development, Master's Programme (S2ESD)

Main field of studies

Education and Sustainability

Specialization

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

Entry requirements

Degree of Bachelor of 180 credits, or professional qualification directed towards the school system of at least 180 credits as well as an independent degree project of 15 credits in or outside qualification, or the equivalent.

Furthermore the student must demonstrate language proficiency in English equivalent English B/English 6 or through an international established test in English for example TOEFL, IELTS.

Learning outcomes

After successfully completed course, the student should be able to:

- Describe and analyse basic ecological relationship and how man intervenes in and interacts with ecosystems through for example climate impact, loss of biological diversity, chemical substances and land use, as well as how this can be communicated in teaching situations.
- Account for the concepts resilience, planetary boundaries, anthropocene and ecological footprints as well as critically review and problematise these.
- Give a historical perspective on how the influence of man on the environment has been discovered and explored as well as analyse what this perspective means for an understanding of today's problems with sustainable development.
- Describe and problematise what sustainability change can imply from a scientific and technical perspective.
- Explain relevant concepts in industrial ecology as well as how these can be used in teaching situations.
- Explain the concept citizen science and account for the way in which citizen science can be used in education for sustainable development as well as analyse the possibilities and limitations with "citizen science".
- Discuss and critically reflect over the understanding of basic ecological processes such as photosynthesis, respiration and decomposition as well as concepts such as energy and matter.

The course is sustainability-focused, 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. The content also constitutes the course's main focus.

Course content

This course is focused on the environmental, scientific and technical aspects of sustainable development. The course provides the students with a broad understanding of how the interaction of man with ecosystems and organisms influences the preconditions for sustainable development as well as how this knowledge can be treated

in teaching situations. The course provides students with tools in the form of concepts, information and data sources data that can be utilised in education for sustainable development. These can be used in the course for the study assignments that are based on local situations in the student's specific environment. The student is introduced to didactic applications of field methodology concerning studies of ecosystems as well as to didactic issues with regard to teaching and learning of ecological relationships. Sustainability change is adressed through concepts and tools from industrial ecology. Problemizing of concepts and indicators that are used in society to discuss, handle and quantify man's influence on his environment. Sustainability change is also included. Important such concepts are resilience, ecosystem service, life-cycle perspective, dematerialisation, bioeconomy, circular economics, planetary boundaries and sustainability principles. The course has a global perspective. In this course education for sustainable development includes both formal and informal teaching contexts, that is learning and education outside classroom and courses.

Form of teaching

Teaching is web-based and is implemented entirely via a web-based virtual learning environment. Teaching is given through short web-based lectures and film clips as well as through different assignments and projects that takes their starting point in the reading list. The students account for their learning progress through written assignments, discussion assignments and web-based multiple choice enquiries. The students are expected also to act as reviewers on at least one written assignment completed by other students. After this so-called peer assessment a final version of the assignment should be submitted. Included is also a webinar where the students together with a teacher in groups discuss a task.

Language of instruction: English

Assessment

The students present their learning through five written assignments. They should also make two multiple choice enquires that are compulsory but not are used to put ranked grades. Students are expected to act reviewers on at least one written assignment completed by other students. After this so-called peer assessment that is also object for examination a final version of assignment should be submitted for examination by the teachers.

If a student, who has failed the same examined component twice, wishes to change examiner before the next examination, a written application shall be sent to the department responsible for the course and shall be granted unless there are special reasons to the contrary (Chapter 6, Section 22 of Higher Education Ordinance).

In cases where a course has been discontinued or has undergone major changes, the student will normally be guaranteed at least three opportunities to take the examination (including the ordinary examination) during a period of at least one year from the last time the course was given.

Grades

The grading scale comprises: Excellent (A), Very good (B), Good (C), Satisfactory (D), Sufficient (E) and Fail (F).

The examinations included in the course are specify in a course guide to number and extent. Each examination is assigned in advance a determined part of the basis of assessment, which decides its weight at joining to a grade.

Course evaluation

The course should be evaluated by students and the results are made to be subject for discussion between teachers in the course. Course evaluation is made in writing and anonymously via a questionnaire in the virtual learning environment on completion of the course as well as during course through views that are delivered on a dialogue forum via the virtual learning environment. A summary of the evaluation is reported to the director of studies and will also be made available to the students. The report forms the basis for course development and is communicated to students in the following course, where any measures for change are presented.

Additional information

Participation in the course requires access to Internet to be able to work against the web-based virtual learning environment that is used in the course.

The course is given by the University of Gothenburg featuring the Section for Environmental System Analysis at Chalmers University of Technology.