



LUND
UNIVERSITY

Faculty of Science

NGEN03, Physical Geography: Global Ecosystem Dynamics, 15 credits

Naturgeografi: Global ekosystemdynamik, 15 högskolepoäng
Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2007-03-01 to be valid from 2007-07-01, autumn semester 2007.

General Information

Language of instruction: English

Main field of studies

Physical Geography

Depth of study relative to the degree requirements

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

Learning outcomes

The course treats processes in ecosystem based on an interdisciplinary perspective and focuses on processes that govern and regulate the dynamics of the vegetation. The general aim is that the students should understand the interaction between biotic and abiotic processes - both natural and of man influenced - in different dimensions:
over time: - during the ice age, present and the future
in space - local, regional and global.

- On completion of the course, the student should be able to:
- analyse and estimate different ecosystems sensitivity for climate changes from different time perspectives
- understand the dynamics in natural and human induced vegetation successions and their depending on environment and climate changes,
- estimate the effects of the climate change on the biodiversity in both local and global scale.

Course content

- Global and regional environment and climate changes under the last 130.000 years with a special focus on the latest 15.000 years and in the future.
- The interaction between ecosystem dynamics, biodiversity and land use at different scales.
- The effects of climate change on land use and biodiversity from a historical and a future perspective.
- Studies of vegetation changes from the Holocene and onward by means of e.g. the pollen analysis. Paleo-ecological methods. Different geographic scales (from global scale to local level). Land use and landscape patterns since the Holocene. Changes in the land use.
- Biodiversity at different levels (genes-species-landscape). Biodiversity in a historical perspective.
- The future climate change interaction with species. The biogeography of species, biodiversity, the sensitivity of ecosystem for changes at different scales.

Course design

The first part of the course consists of lectures, fieldwork, field trips and practical exercises. Fieldwork, field trips and practical exercises are compulsory.

Assessment

The examination of the first part consists of a written exam in the middle of the course. For students who have failed the regular examination, additional occasion in close connection to this is offered. The other part of the course is a literature-based project that is examined via grading of a written report.

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, Pass, Pass with distinction.

In the course, the grades pass with credit, passed and failed are applied.

To pass the entire course, passed exercises, group assignments and project presentations are required and participation in all compulsory parts.

The final grade are decided through joining of the results that are included in the examination.

Entry requirements

For admission to the course, general entry requirements are required and 90 credits science studies. The course NGEA04 Ecosystem analysis, 15 credits or NGE621 Ecosystem analysis, 10 credit points or the equivalent be recommended.

Further information

The course may not be included in a higher education qualification together with BIO792 Bio-geosphere dynamic processes, 10 credit points.

Subcourses in NGEN03, Physical Geography: Global Ecosystem Dynamics

Applies from H07

0701 Global Ecosystem Dynamics, 15,0 hp
Grading scale: Fail, Pass, Pass with distinction