



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLUkurs

Syllabus

PFSoo86 Carbon dynamics and exchange in peatlands, 7.5 credits

Syllabus approved

2012-05-15

Subjects

Soil Science

Education cycle

Third cycle

Grading scale

Pass / Failed

The requirements for attaining different grades are described in the course assessment criteria which are contained in a supplement to the course syllabus. Current information on assessment criteria shall be made available at the start of the course.

Language

English

Prior knowledge

Accepted as PhD student in biogeochemistry, ecology, ecophysiology or related subjects

Objective, including learning outcomes

The main objective is to give the students an overall as well as an in depth understanding of both abiotic and biotic controls on the carbon biogeochemistry

and exchange in high latitude mire ecosystems. The design of the course; lectures in combination with excursions, seminars and student presentations will allow for a good contact within the international PhD-student group and teachers, which will provide possibilities for the students to build functional networks.

Content

The course will convey the contemporary understanding as well as the scientific challenges within carbon dynamics and exchange in peatland ecosystems. Topics are: hydrological control at landscape as well as biogeochemical levels; the role of mires for atmosphere composition and climatic feed backs; ecosystem level controls on the Net Ecosystem Carbon Balance (NECB); the role of nutrients for mire carbon dynamics and exchange; plants as determinants of carbon input to the mire; partitioning terminal carbon mineralization into methane and carbon dioxide production; mire methane biogeochemistry.

Requirements for examination

The students will be examined individually based on active participation in the specified activities, including pre-course reading and poster preparation assignment.

Additional information

The course field component covers 9 days of which two are for arrival and departure of the participants and seven days will be used for teaching. The main teaching components includes: i) lectures on key issues and some lectures more directly related to some of the field visits; ii) field visits to research sites with ongoing research, i.e. Degerö Stormyr (1/2 day) and the Krycklan Catchment (1/2 day) and to a mire chronosequence at the rising coastline north of Umeå (whole day excursion; iii) group discussions in relation to either the literature or to the field visits; iv) short presentations of the PhD-project. Reading of literature in advance will be required and corresponds to ca 3-4 weeks work. The field course will be held at Hotel Forsen at the venue of Vindeln in the close vicinity of several field research sites hosting ongoing internationally well recognized research. The participants will be responsible for travelling wherefrom we will arrange transport to Vindeln. To facilitate transport between Umeå and Vindeln as well as during the field excursions we need to rent three minibuses. The participants will be accommodated in cottages close to the hotel.

Responsible department

Department of Forest Ecology and Management