



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLUkurs

Syllabus

PFS0137 Nordic vegetation under changing climate, 5.0 credits

Syllabus approved

2016-11-07

Subjects

Biology/Agricultural 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

The course is primarily intended for PhD students with interest in the following areas: plant ecology, paleo- and dendrochronology, quaternary ecology, forestry, vegetation modelling, boreal and temperate forest ecology, and climate change issues. The potential applicants should be active PhD students at SLU or other Swedish or European universities, and have Master degree completed in one of the above mentioned areas.

Objective, including learning outcomes

The course will provide students with a broad overview of modern approaches to reconstruct and model vegetation dynamics in the Nordic context. After the course completion students will acquire knowledge to understand and critically analyze results obtained by different methods and evaluate applicability of these methods in their own research programs.

Content

Climatic variability affects regeneration, growth, and distribution of vegetation across biomes, causing large-scale changes in ecological and socio-economic processes. Linking environmental variability at multiple temporal scales to ecological and physiological drivers of this dynamics is paramount for developing sound management strategies. Three principal lines of research in this area are (a) historical reconstructions of climate-vegetation links, done by paleo- and dendrochronological methods, (b) fine-scale analyses and modelling of weather effects on growth and regeneration, and (c) model-based predictions of global and continental scale changes in vegetation cover as a result of climate change. Recently, major advancements have been made in merging multiple approaches in the analyses of climate-related drivers of vegetation dynamics. By adopting a wide and multi-disciplinary approach, the workshop will provide an overview of the recent advancements in understanding historical, modern, and future vegetation dynamics of temperate and boreal regions of the Northern Hemisphere. The current meeting will have its main focus on forest fires, its Holocene and more recent history across boreal and temperal domains of the Northern Hemisphere.

Requirements for examination

Evaluation of student performance will be carried out in three ways:

- (a) assessment of student activity during discussions following lectures.
- (b) presentation of a report written within a mini-group during the course
- (c) post-course assignment, a 3-5 page synthesis on a topic covered by the course program.

Additional information

Following the tradition of similar meetings held in the Nordic countries, the organizers made every effort to make the participation in this workshop as affordable as possible, especially for PhD students and early career researchers. There is no

registration fee to attend the course. Depending on the number of participants, the students may need to cover housing costs (~ 700 - 800 SEK, totally). The meeting will take place at Ekenäs Gård, a manor in Swedish province of Sörmland, owned and managed by Stiftelsen Oscar och Lili Lamms Minne.

Responsible department

Department of Southern Swedish Forest Research Centre