Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLUkurs

Syllabus

PFS0100 Watershed ecology and biogeochemistry, 7.5 credits

Syllabus approved

2013-05-29

Subjects

Forest Management

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 a PhD student in biogeochemistry, ecology, hydrology, or related subject

Objective, including learning outcomes

The overall objective of this course is to provide broad yet mechanistic understanding of watershed science using the Krycklan Catchment Study at the Svartberget

field station in Vindeln (Sweden) as a teaching laboratory. The course will include a combination of short lectures, field excursions and exercises, discussion of literature, and student-led presentations – all designed to foster close interaction among students and instructors.

Content

'Watershed Ecology and Biogeochemistry' will address the foundational concepts and modern challenges within the broad field of watershed science. We will take an integrative approach that focuses on the hydrological connections among upland, riparian, and aquatic components of forest landscapes. Specific topics will include: 1) an overview of catchment hydrology and water balance, 2) elemental transport and processing along hillslopes and riparian zones, 3) controls over material exchange at the land-water interface, 4) biogeochemical cycling in streams and rivers, 5) the biogeochemical significance of wetlands and lakes within catchments, and 6) the interface between forest management and watershed science in boreal lands. General themes in watershed science will be explored through discussions of literature that will be coordinated with short lectures. More specific questions and methodological approaches will be introduced using a series of excursions and activities within Krycklan Catchment. Finally, the relationships between forest management and watershed biogeochemistry in boreal lands will be addressed using nearby experimental catchments as case studies (e.g., the 'Balsjö Paired Catchment Study').

Requirements for examination

Students will be examined individually based on participation in all activities, discussions, and assignments.

Additional information

This year we will have to take out a small course fee (5000 kr or approximately 500 Euros) to cover the cost of food and lodging. The fee will be payed directly to the hotel during the course.

Click here or use this link to sign up for this course and for more information about the course.
https://www.slu.se/en/departments/field-based-forest-research/experimental-forests/vindeln-experimental-forests/krycklan/phd-course/

Responsible department

Department of Forest Ecology and Management