



PFS0100, Watershed ecology and biogeochemistry, 7.5 Hp

Syllabus

Valid from: HT2013

Level within study regulation:

Third cycle

Subject:

- Forest Management

Grading scale:

Pass / Failed

Course language:

Swedish

Entry requirements:

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

Objectives:

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.

Modes of assessment:

Students will be examined individually based on participation in all activities, discussions, and assignments. - If a student has failed an examination, the examiner has the right to issue supplementary assignments. This applies if it is possible and there are grounds to do so.

- The examiner can provide an adapted assessment to students entitled to study support for students with disabilities following a decision by the university. Examiners may also issue an adapted examination or provide an alternative way for the students to take the exam.
- If this syllabus is withdrawn, SLU may introduce transitional provisions for examining students admitted based on this syllabus and who have not yet passed the course.
- For the assessment of an independent project (degree project), the examiner may also allow a student to add supplemental information after the deadline for submission. Read more in the Education Planning and Administration Handbook.

Organisation:

Department of Forest ecology and Management

Supplementary information

Other information:

- The right to participate in teaching and/or supervision only applies for the course instance the student was admitted to and registered on.
- If there are special reasons, students are entitled to participate in components with compulsory attendance when the course is given again. Read more in the Education Planning and Administration Handbook.