



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLUkurs

Syllabus

PFS0145 Stable Isotope Techniques in Ecology and Hydrology, 3.0 credits

Syllabus approved

2018-01-17

Subjects

Chemistry/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

Admission to a Ph.D. program, basic knowledge of chemistry, ability to use excel spreadsheets, and experience or interest in ecological or hydrological research, from ecophysiology to community ecology to catchment biogeochemistry

Objective, including learning outcomes

To provide an opportunity to learn basic stable isotope techniques and to see some of their ecological applications in a fun, supportive atmosphere.

Content

Application of stable isotope techniques, including use of natural abundance and labeling, in ecology and hydrology. Focus is on carbon, water, and nitrogen, including sources of variation and quantitative assessments of fractionation. Key applications include photosynthetic pathways, water-use efficiency, water source partitioning by plants, diet and water-source analysis in animals, hydrologic processes, and soil physical and biochemical processes.

Requirements for examination

Student performance will be assessed based on exercises, participation, and a research proposal

Additional information

We will request samples of, e.g., hair and breath, to be sent at least eight weeks before the meeting in Umeå. These will be analyzed and the results provided to you when you arrive. Details have yet to be worked out.

15 April 2018: Course reading materials and exercises distributed

14 - 18 May, 2018: course meeting in Umeå, 0900-1600 each day.

1 June, 2018: Student proposals submitted.

Responsible department

Department of Forest Ecology and Management