

New course: Autumn 2024, SLU Uppsala

Nitrogen and phosphorus cycling in terrestrial and aquatic ecosystems

Course credits: 3 ECTS

Objectives

The aim of the course is to (i) provide basic knowledge of, as well as (ii) present state-of-the-art techniques to study nitrogen and phosphorus cycling in terrestrial and aquatic ecosystems. Furthermore, the course is focusing on (iii) assessing management systems in relation to improving nitrogen and phosphorus use efficiencies in various ecosystems and (iv) evaluation of current mitigation options to minimize eutrophication of water bodies.

Content

Furthering our understanding of nitrogen and phosphorus cycling is crucial for conservation and sustainable management of ecosystems since these elements are important macronutrients for plant productivity. However, when available in excess, they can be lost, causing eutrophication of water bodies. This course will cover the basic knowledge of nitrogen and phosphorus cycling and their interactions across spatiotemporal scales ranging from the microbial habitat to the global scale.

During the course, the students will gain knowledge of the nitrogen and phosphorus cycle, and together with leading researchers in the field, the students will discuss knowledge gaps as well as potential future directions of research activities.

The course consists of three parts a 5-day workshop at SLU Ultuna campus with participation of leading scientists within the research area.

Target group and prerequisites

The course is open to any interested PhD student but members of the "Focus on Soils and Water" PhD school will be prioritized in case of overbooking. PhD students should have basic knowledge in soil science, aquatic science or soil ecology.

Examination

The student is expected to actively participate during the 5-day workshop. After the workshop, the students should write a short essay in which they reflect on their PhD project in relation to the course content.

Course literature

The lecturers will be asked to list 2-4 key papers that cover the topics they present during the course.

The list will be given to students before the course starts.

Marking scale

Pass/Fail

Registration

Please register for the course no later than September 6th 2024 by sending an email to course coordinator Karolina Jørgensen (karolina.jorgensen@slu.se). The application should contain your name, department, university and a brief description (3-5 sentences) of your research topic. Max number of participants: 25