Summary
Inland waters are now being recognized as major players of global biogeochemical cycles. They also provide essential ecosystem services such as fresh water and fish, and link continental processes with atmospheric and marine processes. The understanding of the structure and function of inland waters.

Content
1. Introduction and a brief history of the freshwater science
2. The physical basis of lotic and lentic ecosystems
3. Nutrient cycling in inland waters and the connection to marine anoxia
4. Ecosystem metabolism
5. Inland waters and the global carbon cycle
6. Biodiversity dynamics and metacommunity ecology
7. The relationship between biodiversity and ecosystem functions and services

Keywords
Inland waters, streams, rivers, lakes, wetlands, groundwater, ecosystem ecology, biogeochemistry

Learning Outcomes
By the end of the course, the student must be able to:
• Argue why inland waters matter for global societal and environmental issues
• Assess / Evaluate the basic hydrodynamics and hydraulics for ecosystem processes in inland waters
• Analyze the link between biogeochemical processes in inland waters and the coastal ocean
• Derive an understanding of aquatic ecosystem functions from biodiversity patterns
• Describe key mechanisms of metacommunity ecology
• Assess / Evaluate ecosystem metabolism in inland waters

Teaching methods
Power point presentations

Expected student activities
Interactions and discussions with teachers
Feedback and respond to questions
Feedback in an appropriate manner on the content and its presentation

Assessment methods
Final written exam (80%) and active participation in the field trip (20%).

**Supervision**

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<th>Office hours</th>
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<td>Assistants</td>
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<td>Forum</td>
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<td>Asa Horgby, Marta Boix Canadell</td>
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