



Faculty of Health, Science and Technology
Biology

Syllabus

Scientific Methods in Freshwater Ecology

Course Code: BIAD12

Course Title: Scientific Methods in Freshwater Ecology
Vetenskapliga metoder i sötvattensekologi

Credits: 15

Degree Level: Master's level

Progressive Specialisation: Second cycle, has only first-cycle course/s as entry requirements (A1N)

Major Field of Study:

BIA (Biology)

Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2016-09-13, and is valid from the Spring semester 2017 at Karlstad University.

Prerequisites

At least 75 completed course credits in Biology, including 15 ECTS cr in ecology, or equivalent

Learning Outcomes

Upon completion of the course, students should be able to:

- plan and complete water sampling in accordance with research guidelines and with the requirements of certification,
- use and explain ecological models, for example, population dynamics and genetic models, and evaluate these models scientifically,
- use theories of manipulative and non-manipulative experiments and field studies in order to plan such explorations,
- suggest suitable statistical analysis models, means of illustration, and oral and written techniques of presenting collected research data in limnic environments and analyse and evaluate such material.

Content

Instruction is project-based with regard to five themes:

1. Experimental design of manipulative experiments as well as non-manipulative investigations
2. Sampling in freshwater environments, e.g. electrofishing and fish-tagging
3. Using ecological models
4. Scientific analysis, statistics, and academic writing and oral presentation
5. Academic writing of project and application planning

Sessions relating to certification, excursions and seminars are mandatory.

Reading List

See separate document.

Examination

The certification components are assessed on the basis of mandatory attendance while all other assessments are based on written individual reports and essays, reviewed and discussed in seminars with fellow-students and teachers.

Grades

One of the grades Fail (U), Pass (G), or Distinction (VG) is awarded in the examination of the course.

Quality Assurance

Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course evaluation is partly based on student views and experiences obtained in accordance with current regulations and partly on other data and documentation. Students will be informed of the result of the evaluation and of any measures to be taken.

Course Certificate

A course certificate will be provided upon request.

Additional information

The local regulations for studies at the Bachelor and Master levels at Karlstad University stipulate the obligations and rights of students and staff.

Excursions may entail extra costs for the students.