Ecosystèmes aquatiques: fonctionnement et paramètres de qualité de l'eau

Lecturers
Nathalie GYPENS (Coordinator) and Isabelle GEORGE

Course mnemonic
BING-F410

ECTS credits
5 credits

Language(s) of instruction
French

Course period
Second term

Course content

Identification and description of key functional groups determining the structure and functioning of aquatic ecosystems. Establishment of links between functional diversity, ecosystem productivity, biogeochemical cycles and resistance to disturbance. The course includes a description of modern quantitative methods for the assessment of aquatic ecosystem structure and function and is illustrated by a seasonal field study of a pond.

Objectives (and/or specific learning outcomes)

Study of structuring mechanisms of aquatic ecosystems, the response to natural and anthropogenic (climate, eutrophication, overfishing) changes and the consequences for biological resource, biogeochemical cycles and the climate.

The course covers freshwater, estuarine, marine and ice-covered systems and takes an hollistical and mechanistical approach. Students are expected to be able of using their fundamentals in chemistry, biology, physics and microbiology to address and resolve modern questions of aquatic ecology

Pre-requisits and co-requisits

Courses having this one as pre-requisit

BING-F525 | Modélisation des écosystèmes aquatiques | 5 crédits and STAG-F013 | Stage en entreprise en sciences et technologie de l'environnement | 15 crédits

Teaching method and learning activities

Theoretical lessons illustrated by a field study and laboratory chemical, microscopical and biological analysis. Three samplings are organized on site to cover the winter-spring transition. Samples are analysed in the home laboratory. All data are joint and discussed during a seminar. The report is due for May 31

References, bibliography and recommended reading

The course integrates recent publications and references are suggested to the students and are available as pdf on request.

Other information

Contact(s)

lancelot@ulb.ac.be

Evaluation method(s)

Other

Evaluation method(s) (additional information)

Assessment is based on student skills to address and resolve specific ecological questions making use of theoretical principles

Determination of the mark (including the weighting of partial marks)

Average of 3 notes: field and laboratory skills; written report; oral examination

Main language(s) of evaluation

French

Programmes

Programmes proposing this course at the faculty of Sciences

MA-BIOR | Master in Biology of Organisms and Ecology | finalité Research/unit 2 and MA-IRBE | Master in Environmental Bioengineering | finalité Professional/unit 1

Programmes proposing this course at the Brussels School of Engineering

MA-IRBE | Master in Environmental Bioengineering | finalité Professional/unit 1