Assessment, Protection and Management of aquatic ecosystems

SCHOOL	NATURAL SCIENCES		
ACADEMIC UNIT	BIOLOGY		
LEVEL OF STUDIES	POSTGRADUATE		
COURSE CODE	**GBIO_OKYB1**	**SEMESTER**	2nd
COURSE TITLE	**Assessment and Management of Aquatic Ecosystems**		
INDEPENDENT TEACHING ACTIVITIES	**WEEKLY TEACHING HOURS**		**CREDITS**
Lectures, Laboratory Exercises	13		10
COURSE TYPE	1) Specialised general knowledge, 2) skills development.		
PREREQUISITE COURSES	NO. Basic knowledge of General Ecology, Botany and Zoology.		
LANGUAGE OF INSTRUCTION and EXAMINATIONS	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	NO		
URL	https://eclass.upatras.gr/courses/BIO314/ http://www.biology.upatras.gr/index.php?option=com_content&view=article&id=38&Itemid=310		

Learning outcomes

The main objective of the course is to acquire the necessary knowledge as well as the appropriate methodological approaches related to the rational assessment and management of aquatic ecosystems. At the end of the course, the student will be able to (a) assess the risks posed by aquatic ecosystems, (b) use appropriate tools to deal with ecological risks, (c) apply the legislative framework (WFD 2000 / 60EE Framework Directive), (d) to implement appropriate methodological approaches for assessing the health status of aquatic ecosystems, and (e) to propose solutions and strategies for ensuring the sustainable development/management of aquatic ecosystems.

General Competences

At the end of the lesson, the *degree-holder* will have developed the following General Skills:

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision-making
- Working independently
- Team work
- Working in an international environment
- Working in an interdisciplinary environment
- Project planning and management
- Respect for the natural environment
- Criticism and self-criticism
- Production of free, creative and inductive thinking.

Teaching and Learning methods-Evaluation

DELIVERY	In person	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	(1) Use of computers and special software during the course by the instructors and the students. (2) Support of educational procedure with use of the e-class electronic platform.	
TEACHING METHODS	**Activity**	**Semester workload**
	Lectures and Laboratory practice	39
	Literature study	50
	Writing project	46
	Home study	115
	Course total (25 hours per one ECT)	**250**
STUDENT PERFORMANCE EVALUATION	Written exams or project presentation (at the semester's end), in Course theory, accounting for the 100% of the Final Grade. Grading scale: 1-10. Passing grade: 5 Grading: 3 corresponds to ECTS grade F. Grade 4 corresponds to ECTS grade FX. Passing grades correspond to ECTS grades as follows: 5=E, 6=D, 7=C, 8=B, 9=A	

Attached bibliography

- Aguiar FC, Segurado P, Urbanic G, Cambra J, Chauvin C, Ciadamidaro S, Dörflinger G, Ferreira J, Germ M, Manolaki P, Minciardi MR, Munné A, Papastergiadou E, Ferreira MT. 2014. Comparability of river quality assessment using macrophytes: a multi-step procedure to overcome biogeographical differences. *Sci Total Environ* 476–477: 757–767.
- De Wilde, A.J., Knoben, R.A. & van Poppel, J.W. 2002. Setting Class boundaries for the classification of rivers and lakes in Europe, Royal Haskoning, Netherlands, Final report, 22p.
- EC Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000. *Establishing a framework for Community action in the field of water policy*, Official Journal of the European Communities L 327: 1-72.
- Manolaki P., Guo Kun, Cristiana Vieira, Eva Papastergiadou, Tenna Riis 2019. Hydromorphology as a controlling factor of macrophytes assemblage structure and functional traits in the semi-arid European Mediterranean streams. *Sci Total Environ* DOI 10.1016/j.scitotenv.2019.134658
- Raven, P.J., Holmes, T.H., Dawson, F.H., Fox, P.J., Everard, M., Fozzard, I.R. & Rouen, K.J. 1998. River Habitat Survey, the physical character of rivers and streams in the UK and Isle of Man. River Habitat Survey, Report.

- Stefanidis, K., Eva Papastergiadou 2019. Linkages between Macrophyte Functional Traits and Water Quality: Insights from a Study in Freshwater Lakes of Greece. *Water* 11, 1047; DOI 10.3390/w11051047.

Scientific journals of interest:
Aquatic Ecology
Freshwater biology
Hydrobiologia
Science of Total Environment
Water
Water Resources Management