COURSE OUTLINE

1. GENERAL

SCHOOL	SCIENCE OF AGRICULTURE		
ACADEMIC UNIT	ANNIMAL PRODUCTION, FISHERIES AND AQUACULTURE		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	AS_404	**SEMESTER**	**D**
COURSE TITLE	AQUATIC ECOSYSTEMS		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).	4	6

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	specialised general knowledge, skills development
PREREQUISITE COURSES:	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek. In case of ERASMUS students: English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	yes
COURSE WEBSITE (URL)	

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the successful completion of the course, students should be able to

- apply knowledge on aquatic ecosystems and environmental issues based on

current research in a future profession inside or outside academia
- argue why inland waters matter for global societal and environmental issues
- assess the basic hydrodynamics and hydraulics for ecosystem processes in inland waters
- describe the characteristics and ecological roles of the major biotic groups in aquatic ecosystems
- identify common invertebrates to the family level
- identify physical, chemical, and biotic factors in oceans, estuaries, rivers, streams, lakes, and aquifers that influence biota, and ecosystem functions and services
- apply various field methods for sampling aquatic biota and understand the risks associated with fieldwork in and around water
- analyse data using statistics and present results graphically and in reports

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Adapting to new situations
- 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

3. SYLLABUS

Classification of aquatic ecosystems, similarities, differences. Ecosystem processes and their linkages to biogeochemical cycles and global environmental change. Biodiversity and its regulation and connection to ecosystem function and ecosystem services. The structure, function, dynamics and role of food webs in aquatic ecosystems. Scientific methodology, including experimental design and research ethics

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face and distance learning
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	• Use of ICT in teaching (Power-Point presentations) • Communication with the students through the online platform E-class • Uploading of lecture slides and other educational material on E-class
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Greek language is used. For foreign students (e.g. Erasmus students) it can be done in English 1. Written final exam (A) 2. Individual work (B) 3. Exercise (C) *Each case is graded on a scale of 0-10* Final grade (FG): FG = 0.5A + 0.25B + 0.25C *Minimum passing grade: 5 (Grade: 0-10)*

Activity	***Semester workload***
Lectures	26
Laboratory practice	26
Writing project	35
Private study time of the students for the lab preparation and final examination	60
Final examination	3
Course total	***150***

5. ATTACHED BIBLIOGRAPHY

- Marine Biology: An Ecological Approach (6th Edition) 6th Edition, James W. Nybakken (Author), Mark D. Bertness (Author)
- Limnology: Lake and River Ecosystems 3rd Edition, Robert G. Wetzel