

COURSE OUTLINE

(1) General information

FACULTY/SCHOOL	TECHNOLOGY		
DEPARTMENT	ENVIRONMENTAL SCIENCES		
LEVEL OF STUDY	<i>Undergraduate</i>		
COURSE UNIT CODE	NEW COURSE	SEMESTER	4th
COURSE TITLE	OCEANOGRAPHY AND MARINE ECOSYSTEMS		
INDEPENDENT TEACHING ACTIVITIES in case credits are awarded for separate components/parts of the course, e.g. in lectures, laboratory exercises, etc. If credits are awarded for the entire course, give the weekly teaching hours and the total credits		WEEKLY TEACHNG HOURS	CREDITS
THEORETICAL BACKGROUND		4	5
LABORATORY PRACTICE		-	-
TOTAL		4	5
COURSE TYPE Background knowledge, Scientific expertise, General Knowledge, Skills Development	Background knowledge		
PREREQUISITE COURSES:	No		
LANGUAGE OF INSTRUCTION & EXAMINATION/ASSESSMENT:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)			

(2) LEARNING OUTCOMES

<p>Learning Outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate (certain) level, which students will acquire upon successful completion of the course, are described in detail. It is necessary to consult:</i></p> <p>APPENDIX A</p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each level of study, in accordance with the European Higher Education Qualifications' Framework.</i> • <i>Descriptive indicators for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and</i> <p>APPENDIX B</p> <ul style="list-style-type: none"> • <i>Guidelines for writing Learning Outcomes</i>
<p><i>The aim of the course is to provide students with the opportunity to get to know the main marine organisms and the factors, living and life-sustaining, that affect the marine ecosystem. Also to understand the mechanisms that govern the vast and ever-changing marine ecosystem and to become aware of marine life through knowledge of its admirable diversity.</i></p>

Upon successful completion of the course, students are expected to have acquired scientific knowledge, critical thinking and skills for:

- a) understanding the basic issues concerning the structure and operation of marine ecosystems,
- b) the recognition of the main groups of marine organisms,
- c) the application of good practices in the sampling of organisms,
- d) the formulation of proposals for the utilization of marine biological resources,
- e) the evaluation of the anthropogenic effects and the way of dealing with the problems arising from them,
- f) the understanding, analysis and presentation of research and bibliographic data,
- g) the organization and implementation of a research related to the marine environment.

General Competences

Taking into consideration the general competences that students/graduates must acquire (as those are described in the Diploma Supplement and are mentioned below), at which of the following does the course attendance aim?

Search for, analysis and synthesis of data and information by the use of appropriate technologies,	Project planning and management
Adapting to new situations	Respect for diversity and multiculturalism
Decision-making	Environmental awareness
Individual/Independent work	Social, professional and ethical responsibility and sensitivity to gender issues
Group/Team work	Critical thinking
Working in an international environment	Development of free, creative and inductive thinking
Working in an interdisciplinary environment
Introduction of innovative research	(Other.....citizenship, spiritual freedom, social awareness, altruism etc.)

- Search for, analysis and synthesis of data and information by the use of appropriate technologies,
- Decision-making
- Individual/Independent work
- Group/Team work
- Environmental awareness
- Critical thinking
- Development of free, creative and inductive thinking

(3) COURSE CONTENT

1. Introduction to the Marine Environment
2. Plankton and planktonic biocommunities
3. Biology of the deep sea
4. Depth of shallow hypoglycemia
5. Ocean Newton
6. Ecology of the Interpullar zone
7. Reduction
8. Eclectic systems and salt marshes
9. Tropical biocommunities
10. Cohabitation
11. Anthropogenic effects on the oceans.

(4) TEACHING METHODS-ASSESSMENT

<p>MODES OF DELIVERY Face-to-face, in-class lecturing, distance teaching and distance learning etc.</p>	<ul style="list-style-type: none"> • Lectures • Semester projects - homework 														
<p>USE OF INFORMATION AND COMMUNICATION TECHNOLOGY Use of ICT in teaching, Laboratory Education, Communication with students</p>	<ul style="list-style-type: none"> • Powerpoint presentation. • e-mail communication. • e-class theory and exercises 														
<p>COURSE DESIGN Description of teaching techniques, practices and methods: Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, Internship, Art Workshop, Interactive teaching, Educational visits, projects, Essay writing, Artistic creativity, etc.</p> <p>The study hours for each learning activity as well as the hours of self-directed study are given following the principles of the ECTS.</p>	<table border="1"> <thead> <tr> <th data-bbox="678 530 1015 562"><i>Activity/Method</i></th> <th data-bbox="1019 530 1335 562"><i>Semester workload</i></th> </tr> </thead> <tbody> <tr> <td data-bbox="678 568 1015 600">Lectures</td> <td data-bbox="1019 568 1335 600">36</td> </tr> <tr> <td data-bbox="678 607 1015 638">Workshop</td> <td data-bbox="1019 607 1335 638">52</td> </tr> <tr> <td data-bbox="678 645 1015 676">Laboratory work</td> <td data-bbox="1019 645 1335 676">-</td> </tr> <tr> <td data-bbox="678 683 1015 714">Theory study</td> <td data-bbox="1019 683 1335 714">50</td> </tr> <tr> <td data-bbox="678 721 1015 797">Weekly individual evaluation reports for laboratory exercises</td> <td data-bbox="1019 721 1335 797">23</td> </tr> <tr> <td data-bbox="678 804 1015 896">Course total (25 hours of workload per credit unit)</td> <td data-bbox="1019 804 1335 896">125</td> </tr> </tbody> </table>	<i>Activity/Method</i>	<i>Semester workload</i>	Lectures	36	Workshop	52	Laboratory work	-	Theory study	50	Weekly individual evaluation reports for laboratory exercises	23	Course total (25 hours of workload per credit unit)	125
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<p>STUDENT PERFORMANCE EVALUATION/ASSESSMENT METHODS Detailed description of the evaluation procedures:</p> <p>Language of evaluation, assessment methods, formative or summative (conclusive), multiple choice tests, short- answer questions, open-ended questions, problem solving, written work, essay/report, oral exam, presentation, laboratory work, other.....etc.</p> <p>Specifically, defined evaluation criteria are stated, as well as if and where they are accessible by the students.</p>	<ul style="list-style-type: none"> • Final examinations • Students should watch at least half seminars • Work will be given during the semester to be assessed at a rate of 30% on the final grade. <p style="text-align: center;"><i>Final Grade</i> 70% in Final Exams + 30% in the semester projects</p>														

(5) SUGGESTED BIBLIOGRAPHY:

-Suggested bibliography

- Castro P., Huber M. E., 1999. "Marine Biology" University Studio Press, Thessaloniki (in Greek).
- Pickard G. L., Emery W. J., 1996. "Descriptive Physical Oceanography: An Introduction", Oxford, Butterworth-Heinemann.
- Vlachos GP, 1999. Merchant Shipping and Marine Environment, Ed. Stamoulis, Athens (in Greek)
- Zafeiropoulos D., 2001. The Blue Planet: An Introduction to Oceanography »Leader Books, Athens, p. 205 (in Greek)
- Gray J.S., 2003. "Marine Ecology: Introduction to the Structure and Functioning of Benthic Communities: An Approach to Sediments", University Studio Press, Thessaloniki, p. 275. (in Greek)

-Theodorou Athanasios, 2004. "Oceanography: Introduction to the marine environment" Stamouli Publications, Athens. (in Greek)

-Complementary bibliography

Teacher's notes and the full lecture material, which are available through the asynchronous education platform