

COURSE OUTLINE

(1) General information

| | | | |
|---|---|-----------------|-----|
| FACULTY/SCHOOL | Maritime and Industrial Studies | | |
| DEPARTMENT | Maritime Studies | | |
| LEVEL OF STUDY | Undergraduate | | |
| COURSE UNIT CODE | NA208 | SEMESTER | 2nd |
| COURSE TITLE | Marine Ecology | | |
| INDEPENDENT TEACHING ACTIVITIES <i>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</i> | WEEKLY TEACHING HOURS | CREDITS | |
| | 4 | 6 | |
| <i>Add rows if necessary. The organization of teaching and the teaching methods used are described in detail under section 4</i> | | | |
| COURSE TYPE <i>Background knowledge, Scientific expertise, General Knowledge, Skills Development</i> | Basic background knowledge regarding the structure and function of marine ecosystems. | | |
| PREREQUISITE COURSES: | Oceanography | | |
| LANGUAGE OF INSTRUCTION: | Greek | | |
| LANGUAGE OF EXAMINATION/ASSESSMENT: | | | |
| THE COURSE IS 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 (certain) level, which students will acquire upon successful completion of the course, are described in detail.

It is necessary to consult:

APPENDIX A

- *Description of the level of learning outcomes for each level of study, in accordance with the European Higher Education Qualifications' Framework.*
- *Descriptive indicators for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and*

APPENDIX B

- *Guidelines for writing Learning Outcomes*

The course provides them will all the necessary information regarding the functioning and structure of the major marine ecosystems on Earth. The learning

outcome, upon successful completion, is to have ecologically well educated and sensitive students regarding the conservation of 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?

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

Search for, analysis and synthesis of data and information by the use of appropriate technologies,
Working in an international environment
Working in an interdisciplinary environment
Introduction of innovative research
Decision-making
Environmental awareness
Critical thinking

(3) COURSE CONTENT

The main goal of this course is to study the ecology of the marine environment by focusing on the structure, function and biodiversity of marine ecosystems. In recent years it has become apparent that the oceans are major food sources, climate and CO₂ regulators, as well as oxygen and mineral suppliers. Emphasis is given in analyzing the relevant ecological processes and adaptations that structure and preserve biological communities and the services they provide. Within this framework the course takes into account the environmental conditions prevailing in estuarine, continental shelf, continental slope, bathyal and abyssal environments of the world oceans.

Thematic Areas

1. Basic ecological principles
2. Comparison of terrestrial and marine ecosystems
3. Primary production. Factors influencing primary productivity
4. Pelagic Ecology
5. Benthic Ecology
5. Deep-Sea Ecology
6. Ecology of Polar Regions

7. Ecology of tropical seas and coral communities
8. Ecological impacts of anthropogenic disturbances
9. Conservation and preservation of marine ecosystems.

(4) TEACHING METHODS--ASSESSMENT

| <p>MODES OF DELIVERY <i>Face-to-face, in-class lecturing, distance teaching and distance learning etc.</i></p> | <p>Face to face. In class learning. Projection and analysis of important documentaries. Field trip to R/V AEGAEO and to the Hellenic Centre for Marine Research (HCMR). Visit to the research laboratories and technology platforms (submersible THETIS, ROVs, benthic landers, sensor buoys etc.) of HCMR. Invited speakers from HCMR.</p> | | | | | | | | | | | | | | | | | | | | | |
|--|---|--|------------------------|--------------------------|----------|----|--------------------|---|------------|---|--|--|--|--|--|--|------------------|----|--|--|--------------|------------|
| <p>USE OF INFORMATION AND COMMUNICATION TECHNOLOGY <i>Use of ICT in teaching, Laboratory Education, Communication with students</i></p> | <p>.</p> | | | | | | | | | | | | | | | | | | | | | |
| <p>COURSE DESIGN <i>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.</i></p> <p><i>The study hours for each learning activity as well as the hours of self-directed study are given following the principles of the ECTS.</i></p> | <table border="1"> <thead> <tr> <th><i>Activity/Method</i></th> <th><i>Semester workload</i></th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td>52</td> </tr> <tr> <td>Educational visits</td> <td>6</td> </tr> <tr> <td>Field trip</td> <td>4</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Non-guided study</td> <td>88</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Total</td> <td>150</td> </tr> </tbody> </table> | | <i>Activity/Method</i> | <i>Semester workload</i> | Lectures | 52 | Educational visits | 6 | Field trip | 4 | | | | | | | Non-guided study | 88 | | | Total | 150 |
| <i>Activity/Method</i> | <i>Semester workload</i> | | | | | | | | | | | | | | | | | | | | | |
| Lectures | 52 | | | | | | | | | | | | | | | | | | | | | |
| Educational visits | 6 | | | | | | | | | | | | | | | | | | | | | |
| Field trip | 4 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Non-guided study | 88 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Total | 150 | | | | | | | | | | | | | | | | | | | | | |
| <p>STUDENT PERFORMANCE EVALUATION/ASSESSMENT METHODS <i>Detailed description of the evaluation procedures:</i></p> <p><i>Language of evaluation, assessment methods, formative or summative (conclusive), multiple choice tests, short- answer questions, open-ended questions, problem solving, written</i></p> | <p>Language of evaluation is in Greek. Written final examination on 2 or 3 subjects.</p> | | | | | | | | | | | | | | | | | | | | | |

| | |
|--|--|
| <p><i>work, essay/report, oral exam, presentation, laboratory work, other.....etc.</i></p> | |
|--|--|

*Specifically defined evaluation criteria
are stated, as well as if and where
they are accessible by the students.*

(5) SUGGESTED BIBLIOGRAPHY:

-Suggested bibliography:

Marine Biology. P. Castro, 2017.

Marine Biology. An ecological approach. J. Nybakken, 2005.

Marine Ecological Processes. I. Valiela