

COURSE OUTLINE

(1) General information

FACULTY/SCHOOL	Maritime and Industrial Studies		
DEPARTMENT	Maritime Studies		
LEVEL OF STUDY	Undergraduate		
COURSE UNIT CODE	NAAFF22	SEMESTER	Winter semester elective
COURSE TITLE	Sustainable Management of Marine Resources		
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 ways by which marine resources could be managed sustainably. Development of analytical skills regarding the ability of students to search for information in order to produce a research report or review paper		
PREREQUISITE COURSES:	Oceanography Marine Ecology		
LANGUAGE OF INSTRUCTION:	English		
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*

Upon successful completion students will be well familiar with the framework regarding the sustainable management of marine resources in the fields of renewable energy, fisheries and aquaculture, common fisheries policy, maritime environmental issues, impacts of oil and gas extraction, integrated management of the coastal zone, climate change impacts, European and international legislation regarding the conservation and preservation of the marine environment. Special emphasis is given to the Maritime Policies of the EU as acknowledged within the Maritime Strategy Framework Directive. By writing essays, reports and review papers students further dwell into the scientific literature and learn how to structure a research article.

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>Introduction of innovative research</i>	<i>(Other.....citizenship, spiritual freedom, social awareness, altruism etc.)</i>

*Search for, analysis and synthesis of data and information by the use of appropriate technologies,
Adapting to new situations
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Individual/Independent work
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Working in an international environment
Working in an interdisciplinary environment
Introduction of innovative research
Project planning and management
Respect for diversity and multiculturalism
Environmental awareness
Critical thinking
Development of free, creative and inductive thinking*

(3) COURSE CONTENT

Scientists now know that life began in the oceans some 3.6 billion years ago. Since then the size, the shape and the composition of marine species has drastically changed, but none the less evolution is continuing. Within 1.4 billion km³ of water and 370 million km² surface area, live millions of species (down to depths of nearly 11000 m) and an enormous number of ecosystems. Moreover, most terrestrial ecosystems depend on the oceans, since the latter regulate the climate, i.e. the air and atmospheric cycles.

During the last two centuries anthropogenic activities (pollution, overfishing, mineral extraction, overexploitation of natural resources, destruction of the coastal

zone, climate change and ocean acidification etc.) are seriously threatening the health of marine ecosystems, thus negatively affecting life support systems and life itself.

Within this context, it has become evident that policies regarding the sustainable management of marine resources are more than necessary at an economic, environmental and social level. These policies must rely on the precautionary principle and on sound scientific evidence and conclusions.

The course focuses on issues such as ecosystem based management, renewable energy sources, conservation and preservation of biological resources, impacts of overfishing, climate change, integrated management of the coastal zone, pollution alleviation, maritime environmental issues, seascape management and planning, blue growth, bioeconomy, marine protected areas, EU (i.e. Common Fisheries Policy) and UN (UNCLOS) environmental legislative framework.

The course work involves research and writing of a scientific report on one of the issues analyzed during the lectures.

(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. Invited speakers from the Hellenic Centre for Marine Research (HCMR).</p>	
<p>USE OF INFORMATION AND COMMUNICATION TECHNOLOGY <i>Use of ICT in teaching, Laboratory Education, Communication with students</i></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>	<p>Activity/Method</p>	<p>Semester workload</p>
	<p>Lectures</p>	<p>52</p>
	<p>Education visit</p>	<p>6</p>
	<p>Study & analysis of bibliography</p>	<p>60</p>
	<p>Essay writing</p>	<p>32</p>
<p>Total</p>	<p>150</p>	
<p>STUDENT PERFORMANCE</p>		

<p>EVALUATION/ASSESSMENT METHODS</p> <p><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 work, essay/report, oral exam, presentation, laboratory work, other.....etc.</i></p> <p><i>Specifically defined evaluation criteria are stated, as well as if and where they are accessible by the students.</i></p>	<p>Language of evaluation is in Greek.</p> <p>Written final examination on 2 or 3 subjects.</p> <p>Written essay/report followed by an oral presentation.</p> <p>Analysis of recent monographs or review papers followed by oral presentation.</p>
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(5) SUGGESTED BIBLIOGRAPHY:

-Suggested bibliography:

«Environmental Science» G. Tyler Miller, Jr., ION Publ., Athens 2018.
European Marine Board (EMB) Position Papers.
European Environmental Agency (EEA) reports.
IMO, FAO and JRC reports.
UNEP reports.