## **COURSE OUTLINE**

### (1) GENERAL

SCHOOL	Maritime and Industrial Studies			
ACADEMIC UNIT	Maritime Studies			
LEVEL OF STUDIES	Postgraduate			
COURSE CODE		SEMESTER 2		
COURSE TITLE	Management of Marine Resources and Blue Growth			
INSTRUCTOR'S NAME				
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	
			3	5
Add rows if necessary. The organisation of methods used are described in detail at (a	-	he teaching		
COURSE TYPE general background, special background, specialised general knowledge, skills development	General Bac	kground		
PREREQUISITE COURSES:	NO			
LANGUAGE OF INSTRUCTION and	ENGLISH			
EXAMINATIONS:				
IS THE COURSE OFFERED TO				
ERASMUS STUDENTS				
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
- By the end of this module, students should be able to:
- 1. understand critical issues regarding environmental impacts of the shipping industry
- 2. build upon a concise framework that integrates ecosystem-based management and ocean governance
- 3. understand the value of marine ecosystems and the economic potential of the various blue growth sectors
- 4. learn the existing and future environmental legislative framework as expressed by IMO and other governing bodies

#### **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 Respect for difference and multiculturalism

Adapting to new situations	Respect for the natural environment
Decision-making	Showing social, professional and ethical responsibility and
Working independently	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

- To explain fundamental theoretical and empirical topics regarding marine ecosystem structure and function
- To critically evaluate the most pressing environmental issues in the marine environment
- To focus on maritime environmental issues and the evolving legislative framework
- To explore management options regarding international ocean governance always within the framework of an ecosystem approach
- To analyze the most important blue growth sectors and their economic potential
- To help students develop critical thinking and evaluation on all the above.

## (3) SYLLABUS

Week 1

Value and vulnerability of Oceans and Coasts

- Ocean Biomes
- Key ecosystem services

### Reading Material:

• Heather M. L. et al. (2012): Why value the oceans? Discussion paper prepared by UNEP/GRID-Arendal and Duke University's Nicholas Institute for Environmental Solutions in collaboration with the UNEP TEEB Office and the UNEP Regional Seas Programme.

- EEA Report / No2/2015. State of Europe's seas
- Kaiser M. et al (2006). Marine Ecology. Processes, Systems and Impacts. Oxford Univ. Press.

### Week 2

Marine Conservation

- Marine Biodiversity
- Sustainable management of marine resources
- UN First Global Integrated Marine Assessment

### Reading Material:

• Group of Experts of the Regular Process. (2016): The First Global Integrated Marine Assessment of the United Nations..

• Heip C. & McDonough N. (2012): Marine Biodiversity, a science roadmap for Europe. Marine Board Future Science Brief 1, European Marine Board, Ostend Belgium.

### Week 3

Marine Protected Areas in Europe

- Understanding marine protected areas and their networks
- Regional Sea Conventions
- EU policy framework for marine protected areas

### Reading Material:

• Reker J. et al. (2015): Marine Protected Areas in Europe's Seas. An overview and perspectives for the future. EEA Report no 3/2015.

## Week 4

Maritime Environmental Issues

- Environmental concerns and the role of IMO
- Atmospheric emissions
- Oil Pollution

Reading Material:

• Shipping and the Environment. Improving Environmental Performance in Marine Transportation (2016). Springer.

• Environmental Effects of Marine Transportation (2019). World Seas, an environmental evaluation. Vol.III, ecological issues and environmental impacts. Chpt. 30. Elsevier.

• OECD. (2016): The Ocean Economy in 2030, OECD Publishing, Paris

• Endresen O. et al. (2008). The Environmental Impacts of Increased International Maritime Shipping. OECD/ITF Global Forum on Transport and Environment in a Globalising World report.

McGuire C & Perivier H. (2011): The Nonexistence of Sustainability in International

Maritime Shipping, issues for consideration. J. Sust. Development v. 4, no 1.

Week 5

Marine Litter (microplastics) and Marine Noise

- Types of marine pollution
- Microplastics as a global threat
- Human footprint in the abyss

Reading Material:

• Reker J. et al. (2015). State of Europe's seas. EEA report no.2

• Albaiges R. P. et al. (2011): Chemical Pollution in Europe's Sea, Practices and Priorities for Research, European Marine Board Position Paper 16. Marine Board-ESF, Ostend Belgium.

• Andrady I. A. (2011). Microplastics in the marine environment. Marine Pollution Bulletin. 62, 1596-1605.

• Erbe et al. (2019). The effects of ship noise on Marine Mammals – A review. Frontiers in Marine Science. Vol. 6, article 606.

## Week 6

Climate Change Impacts

- Role of oceans in climate variability
- Physical and biological responses and impacts
- Socio-economic implications

Reading Material:

- OECD. (2016): The Ocean Economy in 2030, OECD Publishing, Paris
- Anadon R. et al. (2007). Impacts of climate change on the European Marine and Coastal

Environment. European Marine Board Paper 9.

• Heip C. et al. (2011). Synthesis of European Research on the effects of climate change

on Marine Environments. European Marine Board Special Report.

Week 7

Ocean Governance

- International Ocean Governance
- Marine Governance in the Mediterranean Sea
- Sustainable use of the oceans

Reading Material:

• OECD. (2016): The Ocean Economy in 2030, OECD Publishing, Paris

• Kimball L. E. (2003). International Ocean Governance. Using international law and organizations to manage marine resources sustainably. IUCN, Gland, Switzerland and Cambridge, UK.

• Gilek M., Kern K. & contributors (2015). Governing Europe's Marine Environment: Europeanization of Regional Seas or Regionalization of EU policies? Ashgate Publishing. Week 8

Blue Growth

- Blue growth and ocean governance
- The Blue Economy Concept
- Blue Growth Sectors

Reading Material:

- OECD. (2016): The Ocean Economy in 2030, OECD Publishing, Paris
- Ehlers P. (2016). Blue growth and ocean governance-how to balance the use and the protection
- of the seas. WMU J Marit Affairs, 15, 187-203.
- European Marine Board (2013). Navigating the future, Position paper 20..

European Marine Board Paper, Ostend, Belgium.

# (4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY Face-to-face, Distance learning, etc.	Face-to-face		
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY Use of ICT in teaching, laboratory education, communication with students	Use of ICT in Teaching and Laboratory Education Use of ICT in Communication with students: - Course's e-learning platform (messages, announcements) - E-mails		
TEACHING METHODS The manner and methods of teaching are described in detail. Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography,	Activity Lectures, exercises & applications, laboratory exercises	Semester workload 24	
tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.	Self-study	101	
The student's study hours for each learning activity are given as well as the hours of non-	Course total	125	

directed study according to the principles of the ECTS		
STUDENT PERFORMANCE	The module will be assessed on the basis of two components:	
EVALUATION	A) Individual performance (30%): class participation,	
Description of the evaluation procedure	assignments, cases, exercises, tests	
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	B) Written exams (70%): A 2-hour written exam test.	
Specifically-defined evaluation criteria are given, and if and where they are accessible to students.		

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# (5) ATTACHED BIBLIOGRAPHY

1. Main Textbook for the Course:
Kimball L. E. (2003). International Ocean Governance. Using international law and organizations to manage marine resources sustainably. IUCN, Gland, Switzerland and Cambridge, UK.
2. Support Textbooks:
OECD. (2016): The Ocean Economy in 2030, OECD Publishing, Paris.
Gilek M., Kern K. & contributors (2015). Governing Europe's Marine Environment: Europeanization of Regional Seas or Regionalization of EU policies? Ashgate Publishing
Endresen O. et al. (2008). The Environmental Impacts of Increased International Maritime
OECD/ITF report at the Global Forum on Transport and Environment in a Globalising World.
Additional Course Material: - Lectures Outline - Course Slides and Documentaries - Selected Problems Review Academic Papers