

COURSE OUTLINE

(1) GENERAL

SCHOOL	School of Business		
ACADEMIC UNIT	Department of Shipping, Trade and Transport		
LEVEL OF STUDIES	Postgraduate		
COURSE CODE	1205 NA0108	SEMESTER	2 ^o , 3rd Cycle
COURSE TITLE	Shipping and the Environment		
INDEPENDENT TEACHING ACTIVITIES <i>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</i>		WEEKLY TEACHING HOURS	CREDITS
Lectures		3	3,5
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Special background		
PREREQUISITE COURSES:	-		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek (English as Tutoring/Reading Course in case that ERASMUS+ students are enrolled)		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	https://eclass.aegean.gr/courses/TNEY168/		

(2) LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>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.</i></p> <p>Consult Appendix A</p> <ul style="list-style-type: none"> • 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 		
<p>The course "Shipping and the Environment" attempts a holistic approach on studying the interactions between shipping and the environment. After successfully completing this course, the students will be able to:</p> <ol style="list-style-type: none"> 1. Understand the impact of shipping on the marine and atmospheric environment, with emphasis on current issues such as atmospheric pollution and global warming, transfer of non-native organisms with ballast water and ship recycling, 2. Know the key points of the regulatory framework and be able to use them in problems they will face in their work, 3. Understand the innovations on the design, technology, and operation of ships in order to reduce their environmental impact on the environment. 4. Identify and use reliable sources of information on the subject in English and Greek to deepen his/her knowledge. 		
<p>General Competences</p> <p><i>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?</i></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p><i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i></p> <p><i>Adapting to new situations</i></p> <p><i>Decision-making</i></p> <p><i>Working independently</i></p> <p><i>Team work</i></p> <p><i>Working in an international environment</i></p> <p><i>Working in an interdisciplinary environment</i></p> </td> <td style="width: 50%; vertical-align: top;"> <p><i>Project planning and management</i></p> <p><i>Respect for difference and multiculturalism</i></p> <p><i>Respect for the natural environment</i></p> <p><i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i></p> <p><i>Criticism and self-criticism</i></p> <p><i>Production of free, creative and inductive thinking</i></p> <p>.....</p> </td> </tr> </table>	<p><i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i></p> <p><i>Adapting to new situations</i></p> <p><i>Decision-making</i></p> <p><i>Working independently</i></p> <p><i>Team work</i></p> <p><i>Working in an international environment</i></p> <p><i>Working in an interdisciplinary environment</i></p>	<p><i>Project planning and management</i></p> <p><i>Respect for difference and multiculturalism</i></p> <p><i>Respect for the natural environment</i></p> <p><i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i></p> <p><i>Criticism and self-criticism</i></p> <p><i>Production of free, creative and inductive thinking</i></p> <p>.....</p>
<p><i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i></p> <p><i>Adapting to new situations</i></p> <p><i>Decision-making</i></p> <p><i>Working independently</i></p> <p><i>Team work</i></p> <p><i>Working in an international environment</i></p> <p><i>Working in an interdisciplinary environment</i></p>	<p><i>Project planning and management</i></p> <p><i>Respect for difference and multiculturalism</i></p> <p><i>Respect for the natural environment</i></p> <p><i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i></p> <p><i>Criticism and self-criticism</i></p> <p><i>Production of free, creative and inductive thinking</i></p> <p>.....</p>	

<i>Production of new research ideas</i>	<i>Others...</i>
<ul style="list-style-type: none"> • Search for, analysis and synthesis of data and information, with the use of the necessary technology • Working in an interdisciplinary environment • Respect for the natural environment • Production of free, creative and inductive thinking 	

(3) SYLLABUS

<ul style="list-style-type: none"> • The IMO and the process of developing the regulatory framework for shipping and the environment • Atmospheric pollution (Annex VI of MARPOL, sulphur limits, SECAs, NOx limits, NECAs, new technologies and operational measures) • CO₂ emissions and greenhouse effect (Annex VI of MARPOL, EEDI, EEXI, SEEMP, CII, new technologies and operational measures) • Ballast water management and BWM Convention • Management of ship generated waste at ships and ports • Ship recycling • Shipping Sustainability

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face-to-face, synchronous distance learning	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	<ul style="list-style-type: none"> • Lectures using computer presentations and video • Support of learning and communication with the students using the e-learning platforms e-class and Zoom 	
TEACHING METHODS <i>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</i>	Activity	Semester workload
	Lectures	21 hours
	Study and analysis of bibliography	20 hours
	Essay writing	20 hours
	Non-directed study	15 hours
	Course total	76 hours
STUDENT PERFORMANCE EVALUATION <i>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.</i>	<p>Language of evaluation: Greek (English in case that there are ERASMUS+ students enrolled)</p> <ul style="list-style-type: none"> • At the end of the course, the students will write a final exam (50% of the rating). <ul style="list-style-type: none"> ○ Types of questions: multiple choice questionnaires, short-answer questions, open-ended questions. • During the semester, the students will prepare and present an essay (50% of the rating). <ul style="list-style-type: none"> ○ The subject of the essay as well as the sources will be discussed in class, ○ The critical discussion and the reference to scientific sources will be evaluated. 	

(5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography¹:

- Asariotis, R., & Benamara, H. (Eds.), 2012. Maritime transport and the climate change challenge. Routledge.
- David, M., Gollasch, S., & Hewitt, C., 2015. Global Maritime Transport and Ballast Water Management. Springer Science.
- DNV-GL, 2020. Maritime Forecast to 2050, Energy Transition Outlook 2020, available at <https://download.dnvgl.com/eto-2020-download>
- EMSA, 2020. European Maritime Transport Environmental Report (EMTER). It will be uploaded in the e-class page of the course.
- IMO, 2005. Ballast Water Convention, International Maritime Organization, London.
- IMO, n.d.. Marine Environment, available at <http://www.imo.org/en/OurWork/Environment/Pages/Default.aspx>
- Karim, M. S., 2014. Prevention of pollution of the marine environment from vessels: the potential and limits of the International Maritime Organisation. Springer.
- Kotrikla A.M. 2015. Shipping and the Environment, Repository for Greek Academic Electronic Textbooks, Hellenic Academic Libraries Link (in Greek), available at <https://repository.kallipos.gr/handle/11419/5478>.
- Lindgren J.F., Brynolf S., Wilewska-Bien M., Anderson K. (2020). Shipping and the Environment, V. Tselentis (translation), DA VINCI (in Greek).
- Ng, A. K., Becker, A., Cahoon, S., Chen, S. L., Earl, P., & Yang, Z. (Eds.), 2015. Climate change and adaptation planning for ports. Routledge.
- Tan A. K.-J, 2006. "Vessel Source Marine Pollution. The Law and Politics of International Regulation", Cambridge University Press, Cambridge.
- Tselentis V., 2008. Management of marine environment and shipping, Stamouli publishing, Athens (in Greek).

- Related academic journals:

- [Marine Policy](#)
- [Maritime Policy and Management](#)

¹ The suggested bibliography is general and consists of sources found in the Library of the University of the Aegean (<http://www.lib.aegean.gr/>) or are electronically available. More specific scientific sources will be proposed during the lectures, depending on the topic of the essay.