COURSE OUTLINE

(1) GENERAL

SCHOOL	Maritime and Industrial Studies		
ACADEMIC UNIT	Maritime Studies		
LEVEL OF STUDIES	Postgraduate		
COURSE CODE		SEMESTER	C
COURSE TITLE	Environmental Management of Ports and Coastal Areas		

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
Lectures and Practical seminars	3	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	GENERAL BACKROUND
PREREQUISITE COURSES:	NONE
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK
IS THE COURSE OFFERED TO ERASMUS STUDENTS	NO
COURSE WEBSITE (URL)	https://eclass.unipi.gr

(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*

The main purpose of the course is to introduce students to Issues related to policy and governance aspects for the environment and sustainable development of the modern port industry within the environmental policies of the EU. In addition the students are exposed to management options and best practices that have been develop to address environmental impacts of port operations that take place at sea and on the land area of the port, as well as effects from intra-port transport and cargo management. Systems of integrated environmental management, as well as best practices related to the use of new technologies, use of alternative forms of energy, new business models and operational practices, all in the context of modern views on sustainable development, are also described and analyzed.

In particular :

• Environmental management tools and methods • Environmental management tools from ESPO • Advantages from the development and implementation of Environmental Management Systems (EMS). • Tools and methodologies, such as: Life Cycle Analysis (LCA), Risk Analysis and Management, Carbon and Environmental Footprint, Strategic Environmental Impact Study, Environmental Impact Study, Cost Benefit Analysis • ESPO environmental management tools and methods such as: Self Diagnosis Methodology (SDM), Port Environmental Review System (PERS), Key Environmental and Key Performance Indicators (KPI's). application in Greek ports

with specific application examples

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
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas
Project planning and management
Respect for difference and multiculturalism
Respect for the natural environment
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking
……
Others…
…….

Adapting to new situations and Decision-making
Working independently as well as in Teams and groups
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas
Project planning and management
Respect for difference and multiculturalism
Respect for the natural environment
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking

(3) SYLLABUS

- Policy and governance issues for the environment and sustainable development of ports
- The modern port industry – The case of Greek Ports.
- The policies of the E.U. on the environment and transport
- Presentation and analysis of environmental management tools and methods
- Presentation and analysis of the environmental management tools developed by ESPO
- Advantages from the development and implementation of Environmental Management Systems (EMS) in ports.
- Presentation and analysis of tools and methodologies such as: Life Cycle Analysis (LCA), Risk Management, Carbon and Environmental Footprint, Strategic Environmental Impact Study (SEI), Environmental Impact Study (EIS), Cost Benefit Analysis
- Presentation and analysis of ESPO's environmental management tools and methodologies such as: Self Diagnosis Methodology (SDM), Port Environmental Review System (PERS), Key Environmental and Key Performance Indicators (KPI's).-
- Specific examples of applications in Greek and European case studies.

(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*	Support learning through the e-class platform
TEACHING METHODS *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.*	

Activity	***Semester workload***
Lectures	21
Case studies analysis	38
Non-guided study	61

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	<table><tr><td></td><td></td></tr><tr><td>**Total**</td><td>120</td></tr></table>
STUDENT PERFORMANCE EVALUATION *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.*	Written final exam (100%) in Greek mainly with multiple choice question, including short answer questions based on lectures and relevant readings.

(5) ATTACHED BIBLIOGRAPHY

Lecture notes on e-class

Dalley R. & Deeming, K. (1994). “Ports and the Environment”. CSM, The Official Journal of the RICS Vol. 3, Part 5.32

C.F. Wooldridge & A.D. Couper: "Validity of Scientific Criteria for Environmental Auditing of Port and Harbour Operations", 1995.

Επιτροπή των Ευρωπαϊκών Κοινοτήτων, Πράσινη Βίβλος σχετικά με τους θαλάσσιους λιμένες και τις ναυτιλιακές υποδομές

C.F.Wooldridge, B.S.Tselentis, D.Whitehead, "Environmental management of port operation – the ports sector's response to the European Dimension", Maritime Engineering and Ports, σσ.227-242. Εκδ. C.A. Brebbia και Sciutto, Wessex Institute of Technology Press, Southampton, UK, 1998.

http://europa.eu.int/comm./energy_transport/etif/transport_goods_a/performance_by_mode_tkm.html…