

COURSE OUTLINE

(1) General information

FACULTY/SCHOOL	Maritime and Industrial Studies		
DEPARTMENT	Maritime studies		
LEVEL OF STUDY	Undergraduate		
COURSE UNIT CODE	NA409	SEMESTER	4th
COURSE TITLE	Management of Port and Terminal Operations		
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	
Lectures and exercises	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>	Background Knowledge		
PREREQUISITE COURSES:			
LANGUAGE OF INSTRUCTION:	Greek		
LANGUAGE OF EXAMINATION/ASSESSMENT:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBSITE (URL)	https://eclass.unipi.gr/courses/NA409/		

(2) LEARNING OUTCOMES

<p>Learning Outcomes</p> <p><i>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:</i></p> <p><u>APPENDIX A</u></p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each level of study, in accordance with the European Higher Education Qualifications' Framework.</i> • <i>Descriptive indicators for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and</i> <p><u>APPENDIX B</u></p> <ul style="list-style-type: none"> • <i>Guidelines for writing Learning Outcomes</i> <p><i>The course is an introduction to port and terminal operations management, and performance assessment of ports and intermodal terminals. It covers all types of terminals and related types of cargo handled. It presents recent developments in the use of optimal management strategies and</i></p>

tactics, the new and next generation equipment, and the use of Information and Communication Technology (ICT) in terminal operations. It reviews the basic design parameters and the elements of port and intermodal terminal operations, as well as the methods used in forecasting demand and optimizing operations. It presents a systematic review of pertinent scientific and trade literature on issues related to trends and developments in the ports and intermodal terminals.

Upon completion of the course the students will be able to name and describe the port and terminal operations, describe the main functions and classify them by area of operation and type of terminal. They will be able to give examples and describe the terminal equipment and technologies and compare them based on their effectiveness. They will be able to assess the performance of ports and intermodal terminals. They will be able to analyze and appraise port and terminal management strategies and tactics. They will be able to assess the impact of new technology in terminal operations. They will be able to apply forecasting methods and tools and predict future needs in ports and terminals based on their outcomes.

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?

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

- 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
- Decision-making
- Group/Team work
- Development of free, creative and inductive thinking

(3) COURSE CONTENT

1. Introduction - levels of port and terminal development
2. Operations Management Principles
3. Basic parameters in planning and management of ports and terminals
4. Methods to estimate and assess demand for port and terminal services
5. Basic parameters of port and terminal operations
6. Container Terminals
7. Subsystems and basic service provision procedures in container terminals
8. Moving, stacking, storing and handling equipment categories and types
9. Electronic Terminal Operating Systems
10. Trends in terminal automation - Impacts on terminal and port work
11. Port and terminal performance assessment and Key Performance Indicators (KPIs)

(4) TEACHING METHODS--ASSESSMENT

<p>MODES OF DELIVERY <i>Face-to-face, in-class lecturing, distance teaching and distance learning etc.</i></p>	<p><i>Face to face, in-class lecturing</i></p>													
<p>USE OF INFORMATION AND COMMUNICATION TECHNOLOGY <i>Use of ICT in teaching, Laboratory Education, Communication with students</i></p>	<ul style="list-style-type: none"> - Using the Internet as a source of recent information and in identifying and understanding the trends and developments in the sector. - Using digital videos with significant visual messages that capture the terminal functions and operations - Using digital videos featuring expert interviews on topics of interest to the course - Encourage and support students to create their own videos as part of class assignments and presentations - Support of the learning process through the e-class platform 													
<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" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Activity/Method</th> <th style="text-align: center;">Semester workload</th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td style="text-align: center;">52</td> </tr> <tr> <td>Group Project with technical report and presentation</td> <td style="text-align: center;">30</td> </tr> <tr> <td>Case study analysis</td> <td style="text-align: center;">5</td> </tr> <tr> <td>Independent Study</td> <td style="text-align: center;">63</td> </tr> <tr> <td>Total</td> <td style="text-align: center;">150</td> </tr> </tbody> </table>		Activity/Method	Semester workload	Lectures	52	Group Project with technical report and presentation	30	Case study analysis	5	Independent Study	63	Total	150
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<p>STUDENT PERFORMANCE 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>	<ul style="list-style-type: none"> • Written final exam (80%) in the Greek language that includes brief answers to questions assessing the knowledge, understanding, and critical thinking of the student (Oral examination where required - cases of certified learning difficulties requiring oral examination) • Teamwork (20%) with written report submission, oral presentation and examination
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(5) SUGGESTED BIBLIOGRAPHY:

Suggested bibliography:

- Lecture notes based on the following English bibliography
 - Agerschou, Hans, “Planning and Design of Ports and Marine Terminals”, Thomas Telford, 2004, 2nd Edition
 - Jurgen Bose, Editor, Handbook of Terminal Planning. Springer Science & Business Media, LLC 2011
 - Gunther, H. O., Kim, K. H. (eds), “Container Terminals and Automated Transport Systems: Logistics Control Issues and Quantitative Decision Support”, 2004
 - World Bank, Port Reform Toolkit, 2003
- Lecture notes
All the lecture notes and course related material are posted on the course support electronic platform, categorized by lecture and delivery module
- *Additional Bibliography:*
 - Scientific articles including articles published by the instructor
 - Manuals and reports of relevant research projects in which the instructor has participated as lead author or co-author
- *Related scientific magazines:*
 - Maritime Policy and Management
 - Maritime Economics and Logistics
 - Transportation Research Part B – Methodological
 - Transportation Research Part E – Logistics and Transportation Review
 - European Transport Research Review
- *Related sites:*
 - <https://www.porttechnology.org/news/list>
 - <https://www.lloydslintelligence.com/>