

COURSE OUTLINE

1. GENERAL INFORMATION

SCHOOL	MARITIME AND INDUSTRIAL STUDIES		
DEPARTMENT	INDUSTRIAL MANAGEMENT AND TECHNOLOGY		
LEVEL OF STUDY	POSTGRADUATE		
COURSE UNIT CODE	Δ-ΨΜΔ302	SEMESTER OF STUDY	3 rd
COURSE TITLE	DIGITAL TRANSFORMATION AND OPERATIONS MANAGEMENT		
INDEPENDENT TEACHING ACTIVITIES <i>in case in which credits are awarded for separate components/parts of the course, e.g. in lectures, laboratory exercises, etc. If credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		WEEKLY TEACHING HOURS	CREDITS
		3	6
<i>Add rows if necessary. The organization of teaching and the teaching methods used are described in detail at section 4.</i>			
COURSE TYPE <i>general background, special background, specialized general knowledge, skills development</i>	Elective		
PREREQUISITE COURSES:	Basic knowledge on Operations Management		
LANGUAGE OF INSTRUCTION and EXAMINATION/ASSESSMENT:	Hellenic/English		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBSITE (URL)			

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>APPENDIX A</p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each qualifications' cycle, according to the European Higher Education Area's Qualification Framework.</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and APPENDIX B</i> • <i>Guidelines for writing Learning Outcomes</i> 						
<p>The course aims to help graduates of the MSc as future executives of Logistics and Supply Chain Management departments in using and applying cutting-edge technologies, mainly technologies of the 4th Industrial Revolution, in efficiently managing business operations in complex production/distribution systems.</p> <p>Upon successfully completing the course, students will be able to effectively manage their companies' business operations using cutting-edge technologies such as the Internet of Things, Artificial Intelligence, Big Data and Analytics and, finally, Distributed Ledger Technologies.</p>						
<p>General Competences</p> <p><i>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 aims</i></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><i>Search for, analysis and synthesis of data and information, by the use of technologies that are necessary according the case</i></td> <td style="width: 50%; border: none;"><i>Project planning and management</i></td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;"><i>Respect for difference and multiculturalism</i></td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;"><i>Environmental awareness</i></td> </tr> </table>	<i>Search for, analysis and synthesis of data and information, by the use of technologies that are necessary according the case</i>	<i>Project planning and management</i>		<i>Respect for difference and multiculturalism</i>		<i>Environmental awareness</i>
<i>Search for, analysis and synthesis of data and information, by the use of technologies that are necessary according the case</i>	<i>Project planning and management</i>					
	<i>Respect for difference and multiculturalism</i>					
	<i>Environmental awareness</i>					

<i>Adapting to new situations</i> <i>Decision-making</i> <i>Independent work</i> <i>Team work</i> <i>Working in an international environment</i> <i>Working in an interdisciplinary environment</i> <i>Introduction of innovative research</i>	<i>Social, professional and ethical responsibility and sensitivity to gender issues</i> <i>Critical consciousness, criticism and self-criticism</i> <i>Development of free, creative and inductive thinking</i>
<p>The general competences that the student should have acquired and that the course is aimed at are:</p> <ul style="list-style-type: none"> • <i>Search for, analysis and synthesis of data and information, by the use of technologies that are necessary according the case</i> • <i>Adapting to new situations</i> • <i>Decision-making</i> 	

3. COURSE CONTENT

The course covers the following sections:

Week	Topic
1 ⁿ -2 ⁿ	Introduction to Digital Transformation and Operations Management
3 ⁿ	Industry 4.0 Technologies and Operations Management
4 ⁿ - 5 ⁿ	Distributed Ledger Technologies and Operations Management
6 ⁿ - 7 ⁿ	IoT-related applications in Operations Management
8 ⁿ	Big Data Analytics and Operations Management
9 ⁿ	Artificial Intelligent applications in Operations Management
10 ⁿ	Assignments presentation-Feedback

A combination of teaching and learning methods will be used in order to actively involve students and emphasize on the practical application of the topics under consideration: lectures using audiovisual media, analysis and discussion of scientific texts and experiential (group) exercises.

In addition, articles, audiovisual lecture material, web addresses, useful information, and case studies are posted at e-class.

4. TEACHING METHODS - ASSESSMENT

TEACHING MODE <i>Face-to-face, in-class lecturing, on distance teaching and distance learning etc.</i>	In-class lecturing.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY <i>Use of ICT in Teaching, Laboratory Education, Communication with students</i>	Teaching: Lectures with audiovisual media, support of the learning process through the eclass platform. Communication with students: Face-to-face at office hours, email, e-class	
COURSE DESIGN <i>Description of teaching techniques, practices and methods:</i> <i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, clinical practice, Art Workshop, Interactive teaching, Educational visits, project, Essay writing, Artistic creativity, etc.</i> <i>The study hours for each learning activity as well as the hours of non- directed study are given according to the principles of the ECTS</i>	Activity / Method	Semester Workload
	Lectures	30
	Self-study of lecture material and case studies	104
	Assignment	15
	Counselling	1
	Course Total	150
STUDENT PERFORMANCE EVALUATION/ASSESSMENT METHODS <i>Detailed description of the evaluation procedures:</i>	Language of exams: Hellenic Assessment Methods: The course syllabus is posted on eclass during the semester. The final grade for the course is 90%	

<p><i>Language of evaluation, assessment methods, formative or summative (conclusive), multiple choice questionnaires, short- answer questions, open-ended questions, problem solving, written work, Essay/report, oral exam, public presentation, laboratory work, art interpretation, other.....etc</i></p> <p><i>Evaluation criteria are specifically defined and given as well as if and where they are reported and accessible to students.</i></p>	<p>based on the assignment and 10% based on the presentation of the assignment at the end of the lectures.</p> <p>In case of failure, in the September re-sits, the grade of the course is formed again 100% from written examination.</p> <p>The evaluation of students with special learning difficulties in writing and reading (as certified and qualified by a competent institution) is performed according to the relevant procedure decided by the Department Assembly.</p> <p>Notification of the Assessment Criteria: The evaluation criteria are made known during the first lecture and are clearly stated on the course website and/or e-class. Students have the opportunity to receive explanations about the grade they received.</p>
--	--

5. SUGGESTED BIBLIOGRAPHY

<p><i>- Bibliography</i> Selected papers from scientific journals.</p> <p><i>-Journals:</i></p> <ul style="list-style-type: none"> • Management Science • Journal of Operations Management • Production and Operations Management • European Journal of Operational Research • International Journal of Production Economics • International Journal of Production Research • Production Planning and Control • Journal of Cleaner Production <p><i>-Lecture notes</i> <i>-Workshop material</i></p>
--