

COURSE OUTLINE

1. GENERAL INFORMATION

SCHOOL	MARITIME AND INDUSTRIAL STUDIES		
DEPARTMENT	INDUSTRIAL MANAGEMENT AND TECHNOLOGY		
LEVEL OF STUDY	POSTGRADUATE		
COURSE UNIT CODE		SEMESTER OF STUDY	EEM: 1 st PMPD: 3 rd
COURSE TITLE	CLIMATE CHANGE & SUSTAINABILITY		
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
Lectures, Project		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>	Special background		
PREREQUISITE COURSES:	None		
LANGUAGE OF INSTRUCTION and EXAMINATION/ASSESSMENT:	Greek		
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>Climate change is expected to affect key sectors such as water availability, food security and energy, while mitigation, management and adaptation efforts are a global axis of development. The multiple and multifaceted correlation between climate change and sustainability has significant implications for entrepreneurship, creates major challenges in infrastructure development and project implementation, requires new strategies in environmental resource management, and generates new data in energy and economic policy. The course will discuss: (a) climate change data, climate scenarios, policies and strategies, (b) adaptation strategies and building a climate-resilient future, (c) issues related to atmospheric pollution, industry, energy and the environment, (d) corporate social responsibility and (e) sustainability and environmental resource management. Also, case studies related to the effects of climate change on the tourism industry, the construction of road axes, the management of coastal engineering projects, energy security, etc. will be presented.</p> <p>Upon successful completion of the course, the students will be able to:</p>

- Manage the interaction between climate change impacts and aspects of entrepreneurship.
- Plan mitigation and adaptation actions at national, regional and local level.
- Incorporate the uncertainty of climate models into decision making about the future.
- Formulate adaptation strategies to build a future resilient to climate change.
- Understand issues of inequality and familiarize themselves with the methods and policies to abolish them.

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 aims

Search for, analysis and synthesis of data and information, by the use of technologies that are necessary according the case

Adapting to new situations

Decision-making

Independent work

Team work

Working in an international environment

Working in an interdisciplinary environment

Introduction of innovative research

Project planning and management

Respect for difference and multiculturalism

Environmental awareness

Social, professional and ethical responsibility and sensitivity to gender issues

Critical consciousness, criticism and self-criticism

Development of free, creative and inductive thinking

The general competences that the student should have acquired and that the course is aimed at are:

- Search for, analysis and synthesis of data and information, by the use of technologies that are necessary according the case
- Adapting to new situations
- Decision-making
- Independent work
- Team work
- Working in an interdisciplinary environment
- Project planning and management
- Respect for difference and multiculturalism
- Environmental awareness
- Social, professional and ethical responsibility and sensitivity to gender issues
- Critical consciousness, criticism and self-criticism
- Development of free, creative and inductive thinking

3. COURSE CONTENT

The course covers the following sections:

Wk.	Unit	Sub-unit	Lesson
1	1. Climate Change Data, Scenarios, Policies & Strategies	Introduction: the scientific, social and political framework	1. The shifting of climate change to climate crisis 2. Climate variability and climate change 3. The evolution of the scientific and political field
2		Data, scenarios, policies & strategies	1. Climate change data 2. The systems affected by climate change 3. Climate change economics 4. The strategy to deal with the climate crisis
3	2. Climate Change & Sustainability	Adaptation strategies and building a climate resilient future	1. The response to the climate crisis in the Mediterranean 2. Climate evolution scenarios 3. The case of the Mediterranean Sea 4. Climate change adaptation: the strategic framework
4			5. Population – target 6. Migration models

			7. Climate change adaptation actions in the Mediterranean 8. Adopting an integrated approach 9. Applicability issues
5	Social Corporate Responsibility	Entrepreneurship and climate change	1. CSR: concepts, definitions, practices
6			2. Case studies
7			3. Good practices and actions
8	Climate Change Adaptation Measures	Case studies	1. EU available tools 2. Vulnerability assessments 3. EU on going programs 4. Private Sector's activities 5. Smart solutions to strengthen resilience 6. The situation in Greece
9	Climate Change Mitigation Measures	Case studies	1. Mitigation strategies 2. Sustainable production, development and management 3. City sustainability
10	Perceptions, Inactions, Beliefs	Society & policy	1. The need to prompt action 2. The effects of inactivity 3. Sensitization methods

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, experiential (group) exercises and lectures by distinguished guests. Students will also participate in a team project.

In addition, articles, audiovisual lecture material, web addresses, useful information, exercises and case studies are posted at eclass.

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, eclass	
COURSE DESIGN <i>Description of teaching techniques, practices and methods: 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
	Small projects/Self-assessment activities	25
	Project	60
	Self-study of lecture and activities material	30
	Exams (oral)	3
	Counselling	2
	Course Total	150
STUDENT PERFORMANCE EVALUATION/ASSESSMENT METHODS <i>Detailed description of the evaluation procedures:</i>	Language of exams: Greek Assessment Methods: Course material is posted at eclass during the semester. The final grade of the course is as follows:	

<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>	<ul style="list-style-type: none"> • 30% from the participation of students in course activities • 70% from the preparation of a project, which is supported orally on the day of the course examination <p>The final grade of the project is 50% from the written text and 50% from the presentation.</p> <p>Project topics and evaluation criteria are posted on eclass at the beginning of the semester. The groups consist of 2-3 students. Each assignment requires research and study of up-to-date literature, writing a text of 3500-4000 words (in total) and a 15-minute presentation.</p> <p>In case of failure, in the September re-sits, the grade of the course is formed by 100% by the project. The final grade of the project is 50% from the written text and 50% from the presentation on the day of the course 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 eclass. Students have the opportunity to receive explanations about the grade they received.</p>
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5. SUGGESTED BIBLIOGRAPHY

<p><i>- Bibliography</i></p> <ul style="list-style-type: none"> • Štreimikienė, D., Mikalauskiene, A. (2021). Climate Change and Sustainable Development: Mitigation and Adaptation, 1st Ed., CRC Press. ISBN-10: 0367550318, ISBN-13: 978-0367550318 • He, B.-J., Sharifi, A., Feng, C., Yang, J. (2021). Climate Change and Environmental Sustainability, Vol. 1, MDPI. ISBN 978-3-0365-2673-7 • He, B.-J., Sharifi, A., Feng, C., Yang, J. (2021). Climate Change and Environmental Sustainability, Vol. 2, MDPI. ISBN 978-3-0365-2671-3 <p><i>-Journals:</i></p> <ul style="list-style-type: none"> • Sustainable Production and Consumption • Sustainable Cities and Society • Resources Policy • Ocean & Coastal Management • Environmental Science & Policy • Climate Risk Management <p><i>-Lecture notes</i></p> <p><i>-Workshop and self-assessment material</i></p>
