COURSE OUTLINE

(1) OVERVIEW

SCHOOL	MARITIME & INDUSTRY		
DEPARTMENT	INDUSTRIAL MANAGEMENT & TECHNOLOGY		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	ΤΕΠΑΡ20	SEMESTER	7
COURSE TITLE	RESEARCH METHODOLOGY & ETHICS		

DISCRETE TEACHING ACTIVITIES *In cases where ECTS credits are awarded to distinct components of the course (e.g., Lectures, Laboratory Exercises, etc.), please indicate them separately. If the credits are awarded as a whole for the entire course, please state the weekly teaching hours and the total number of credits*	WEEKLY TEACHING HOURS	ECTS
Lectures, Workshop & Project	3	2.5
Please add additional rows if needed. A detailed description of the teaching organization and instructional methods is provided in Section (4).		

COURSE TYPE *core (C), core elective (CE), elective (E) - background, specialization, skill development*	C – Skill Development
PREREQUISITE COURSES:	None.
LANGUAGE OF TEACHING AND EXAMINATIONS:	Greek (English for ERASMUS students)
THIS COURSE IS AVAILABLE TO ERASMUS STUDENTS	Yes
COURSE WEBPAGE (URL)	

(2) LEARNING OUTCOMES

Learning Outcomes

The learning outcomes of the course are described, specifying the particular knowledge, skills, and competencies at the appropriate level that students will acquire upon successful completion of the course.

Please refer to Appendix A

- *Description of the Level of Learning Outcomes for each study cycle according to the Qualifications Framework of the European Higher Education Area.*
- *Descriptive Indicators of Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B.*
- *Concise Guide for Writing Learning Outcomes*

The purpose of the course is for students to understand the fundamental principles of research methodology and to acquire the necessary knowledge and skills for designing and conducting small-scale scientific projects. The course focuses on writing techniques, the use of modern tools for searching, processing, and presenting data, as well as proper documentation and referencing of bibliographic sources. Through practical examples, case studies, and supportive audiovisual material, students become familiar with the language of science as a communication tool, the formulation of research problems and hypotheses, the evaluation of sources, and the writing and presentation of scientific and technical texts.

Special emphasis is placed on developing skills related to organization and teamwork, as well as fostering ethical awareness by adhering to principles of academic integrity, avoiding plagiarism, and responsibly managing scientific information.

Upon successful completion of the course, students will be able to:

- Understand the basic principles of research methodology.
- Design and organize small-scale scientific works (studies, reviews, technical texts, etc.).
- Effectively use ICT tools for searching, processing, presenting, and documenting scientific data.
- Critically evaluate and use bibliographic sources and information.
- Formulate research questions and organize their topics into thematic subunits and parameters.
- Compose scientifically substantiated texts, following structural, linguistic, and bibliographic referencing requirements.
- Deliver clear and consistent oral presentations of scientific or technical work.
- Actively participate in the design and implementation of group projects by taking on roles and adhering to timelines.
- Consistently apply the principles of research ethics and academic integrity, avoiding plagiarism and unreliable

documentation.

- Recognize the contribution of scientific work to the production and dissemination of knowledge.

General Competences

Taking into account the general competences that a graduate should have acquired (as listed in the Diploma Supplement and outlined below), which of these competences does the course aim to develop?

Searching, analyzing, and synthesizing data and information, using the necessary technologies	*Project design and management*
Adaptation to new situations	*Respect for diversity and multiculturalism*
Decision making	*Respect for the natural environment*
Autonomous work	*Demonstration of social, professional, and ethical responsibility and sensitivity to gender issues*
Teamwork	*Exercising critical and self-critical thinking*
Working in an international environment	*Promotion of free, creative, and inductive thinking*
Working in an interdisciplinary environment	*…*
Generation of new research ideas	*Other competences: …*

- Searching, analyzing, and synthesizing data and information, using the necessary technologies
- Adaptation to new situations
- Decision making
- Autonomous work
- Teamwork
- Generation of new research ideas
- Respect for diversity and multiculturalism
- Demonstration of social, professional, and ethical responsibility and sensitivity to gender issues
- Exercising critical and self-critical thinking
- Promotion of free, creative, and inductive thinking

(3) COURSE CONTENT

The course covers the following topics:

- Principles of scientific writing: structure, thematic framework, documentation, conclusions.
- Searching for data/knowledge/information: search engines, search methods, organization and evaluation of data.
- Critical analysis of scientific studies.
- Writing rules: writing style, text length, important grammar rules, images, charts, and tables.
- Issues of plagiarism: legal framework, academic ethics, types of plagiarism, methods of avoidance.
- Ethics in research and professional practice.
- Composition of scientific texts.
- Formulation of the problem to be investigated and hypotheses regarding possible causal factors contributing to the problem, decomposition of the problem into thematic sub-units and parameters, determination of the study boundaries of the problem and the framework for approaching the thematic sub-units and parameters of the problem.
- Oral presentation/development techniques: purpose of presentations, preparation techniques, determination of content and message of the presentation according to the audience, presentation style, dynamic presentation techniques, errors, omissions and methods to avoid them, audiovisual techniques.
- Group work: organization, coordination, and execution (design of sections, role assignment, timelines, harmonization of sections, presentation).
- Special topics in environmental management studies.
- Special topics in natural resource management studies.
- Special topics in statistical studies and applications.
- Special topics in analytical methods in industry.
- Special topics in modern production technologies and applications.
- Special topics in corporate strategy and management.

A combination of teaching and learning methods will be used aiming at the active participation of students and the practical application of the examined thematic units: lectures, analysis and discussion of scientific texts, and experiential (group)

exercises. Additionally, students will undertake a project. Furthermore, articles, audiovisual lecture material, web links to useful resources, exercises, and software are uploaded in electronic format on the eClass platform.

(4) TEACHING and LEARNING METHODS - ASSESSMENT

<table>
<tr><td>TEACHING MODE
Face-to-face, in-class lecturing, distance teaching and distance learning etc.</td><td>• Distance teaching & learning</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATION TECHNOLOGY
Use of ICT in Teaching, Laboratory Education, Communication with students</td><td>Teaching: Learning support through the eClass electronic platform, synchronous distance teaching via MS Teams.
Communication with students: face-to-face during office hours, email, eClass platform, MS Teams tools</td></tr>
<tr><td>Organization of Teaching
A detailed description of the teaching methods and approach is provided.
Lectures, seminars, laboratory exercises, fieldwork, study and analysis of literature, tutorials, internships (placements), clinical practice, artistic workshops, interactive teaching, educational visits, project work, writing assignments, artistic creation, etc.

The student's study hours for each learning activity, as well as the hours of independent study, are specified in accordance with the principles of ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester Workload</th></tr>
<tr><td>Seminars</td><td>13</td></tr>
<tr><td>Workshop</td><td>26</td></tr>
<tr><td>Self-study of lecture material and exercises</td><td>8</td></tr>
<tr><td>Project</td><td>15</td></tr>
<tr><td>Consultation Support</td><td>0.5</td></tr>
<tr><td>Course Total</td><td>62.5</td></tr>
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<tr><td>STUDENT ASSESSMENT
Description of the assessment process

Language of assessment, assessment methods, formative or summative evaluation, multiple-choice tests, short-answer questions, essay questions, problem-solving, written assignments, reports, oral examinations, public presentations, laboratory work, clinical patient examination, artistic interpretation, other(s)

Explicitly state assessment criteria and information on whether and where these criteria are accessible to students are included.</td><td>Language of Assessment: Greek (English for ERASMUS students)
Assessment Mode: Distance learning
Assessment Methods: The final course grade is formed as follows:
• 30% from students' participation in course activities
• 70% from the completion of a project
In the September resits, the course grade is determined 100% by the completion of a project.
Students with Learning Difficulties: Students with certified learning difficulties in reading and writing (as recognized by the competent authority) are assessed according to the procedures established by the Department.
Disclosure of Assessment Criteria: The assessment criteria are communicated during the first class and are clearly stated on the course website and the eClass platform. The topics of the projects and the evaluation criteria are posted on the eClass platform at the beginning of the semester. Students have the right to receive explanations regarding their grades. In cases of further requests, the procedures outlined in the current Study Regulations apply.</td></tr>
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(5) SUGGESTED BIBLIOGRAPHY

- Books:

- Schindler, P.S. (2019). Research Methods for Business, Kritiki Publications, ISBN: 9789605863111 [86055424] – in Greek

- Journals:

- Journal of Environmental Management
- Journal of Knowledge Management
- Research Policy
- The International Journal of Technology, Knowledge and Society

- Other educational material:

- Lecture Notes and Supporting Material provided by the Instructor
- Practice Material