COURSE OUTLINE

(1) OVERVIEW

SCHOOL	MARITIME & INDUSTRY		
DEPARTMENT	INDUSTRIAL MANAGEMENT & TECHNOLOGY		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	ΤΕΠΑΡ31	SEMESTER	4
COURSE TITLE	ERGONOMICS		

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	4	5.5
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*	E - Specialization
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*

Ergonomic knowledge is essential both in our professional and everyday life. This course introduces the capabilities and limitations of the human body and the way this knowledge can be used in product design & development for creating products that are both easy to use and attractive, as well as in workplace design for accomplishing high levels of work productivity and occupational safety.

In this context, the course analyses elements of the structure and function of the human body and the factors that harm it, while providing advice on the prevention of occupational accidents and occupational diseases that improve the everyday life of the human being. To better understand the human decision-making process and our cognitive limits part of the course focuses on basic cognitive processes and the basic function/characteristics of associated systems such as the brain, sensory organs and the musculoskeletal and nervous system. Processes associated with human energy production and consumption through physical activity are also discussed.

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

- Demonstrate knowledge on the basic ergonomics methods and applications.
- Understand and manage occupational safety issues.
- Use the basic ergonomic analysis tools and ergonomic design techniques for products, jobs and workplaces.

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
Adaptation to new situations
Decision making
Project design and management
Respect for diversity and multiculturalism
Respect for the natural environment
Demonstration of social, professional, and ethical responsibility and sensitivity to

Autonomous work *Teamwork* *Working in an international environment* *Working in an interdisciplinary environment* *Generation of new research ideas*	*gender issues* *Exercising critical and self-critical thinking* *Promotion of free, creative, and inductive thinking* *…* *Other competences: …*

- Searching, analyzing, and synthesizing data and information, using the necessary technologies
- Adaptation to new situations
- Decision making
- Autonomous work
- 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:

Εβδομάδα	Περιεχόμενα Μαθήματος
1	Introduction
2	The methodology of Ergonomics
3	Anthropometry
4	Physical work and materials handling
5-6	Cognitive Ergonomics
7	Design of visual information displays
8	Design of Controls
9	Workplace/Workstation Design
10-11	Usability Design for Products
12	Environmental Factors – Thermal Environment
13	Environmental Factors – Noise

Selected case studies from the international literature are also presented. 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

TEACHING MODE *Face-to-face, in-class lecturing, distance teaching and distance learning etc.*	• Face-to-face in a classroom • Distance teaching & learning (if required)
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY *Use of ICT in Teaching, Laboratory Education, Communication with students*	**Teaching**: Lectures using modern audiovisual equipment, 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
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,*	

Activity	Semester Workload
Lectures	52
Case studies	10
Study of bibliography	27
Self-study of lecture material	46
Consultation Support	0.5
Exams (written)	2
Course Total	**137.5**

are specified in accordance with the principles of ECTS	
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.*	Language of Assessment: Greek (English for ERASMUS students) Assessment Mode: Face-to-face and/or distance learning (if required) Assessment Methods: The final grade of the course is determined 100% by the written exams during the spring semester examination period and, in case of failure, during the September resits. The written exam includes short-answer and essay questions. It is conducted as a closed-book exam. 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 exam syllabus is announced on eClass following the final lecture of the semester. The exam answers are posted on eClass after the examinations take place. Students have the right to review their graded exams and receive explanations regarding their grades. In cases of further requests, the procedures outlined in the current Study Regulations apply.

(5) SUGGESTED BIBLIOGRAPHY

- Books:

- Laios, L., Giannakourou-Sioutari, M. (2003). Modern Ergonomics, papasotiriou Publications, ISBN: 9789607530448 [9706] – in Greek
- Kontoyiannis, Th. (2021). Ergonomics and Occupational Health & Safety Management Systems, 3rd Edition, Tziolas Publications, ISBN: 9789604189045 [102072191] – in Greek

- Journals:

- Applied Ergonomics
- Human Factors

- Other educational material:

- Lecture Notes and Supporting Material provided by the Instructor