COURSE OUTLINE EXERCISE PHYSIOLOGY

1. GENERAL

SCHOOL	SCHOOL OF PHYSICAL EDUCATION, SPORT SCIENCE AND OCCUPATIONAL THERAPY		
DEPARTMENT	PHYSICAL EDUCATION AND SPORT SCIENCE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	C132	**SEMESTER**	3rd
COURSE TITLE	EXERCISE PHYSIOLOGY		

TEACHING ACTIVITIES *If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labs etc. If the ECTS Credits are awarded to the whole course, then please indicate the teaching hours per week and the corresponding ECTS Credits.*	**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
	3	6
Please, add lines if necessary. Teaching methods and organization of the course are described in section 4.		

COURSE TYPE *Background, General Knowledge, Scientific Area, Skill Development*	BACKGROUND
PREREQUISITES:	NONE
TEACHING & EXAMINATION LANGUAGE:	GREEK
COURSE OFFERED TO ERASMUS STUDENTS:	YES
COURSE URL:	https://eclass.duth.gr/courses/KOM02106/

2. LEARNING OUTCOMES

Learning Outcomes

Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

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

- have fundamental knowledge regarding the function of body systems (cardiovascular, respiratory, nervous, muscular, hormonal, immune, and metabolism) during exercise.
- have fundamental knowledge regarding the adaptations induced by systematic exercise and training on human body systems (cardiovascular, respiratory, nervous, muscular, hormonal, immune, and metabolism), improving physical condition, performance, and health.
- understand how environmental conditions affect body functions during exercise.
- understand how exercise alters body composition and health indicators.
- understand how physiological parameters can be taken into account when designing training programs.

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information,
ICT Use
Adaptation to new situations
Decision making
Project design and management
Equity and Inclusion
Respect for the natural environment
Sustainability
Demonstration of social, professional and moral

Autonomous work	*responsibility and sensitivity to gender issues*
Teamwork	*Critical thinking*
Working in an international environment	*Promoting free, creative and inductive reasoning*
Working in an interdisciplinary environment	
Production of new research ideas	

- Search, analyze, and synthesize data and information, using the necessary technologies
- Decision-making
- Independent work
- Generation of new research ideas
- Respect for diversity and multiculturalism
- Promotion of free, creative, and inductive thinking

3. COURSE CONTENT

1. Energy systems
2. Energy metabolism during exercise
3. Metabolic adaptations to training
4. Adaptations of respiratory function during exercise and training
5. Cardiovascular system function during exercise
6. Functional and morphological adaptations of the cardiovascular system to training
7. Neural control of movement
8. Muscular function during exercise
9. Functional and morphological adaptations of the neuromuscular system to training
10. Hormonal and immune function during exercise; adaptations to training
11. Body composition and weight control through exercise
12. Exercise in hot and cold environments
13. Physiological principles of training

4. LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD *Face to face, Distance learning, etc.*	Face-to-face
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) *Use of ICT in Teaching, in Laboratory Education, in Communication with students*	Use of ICT in Teaching and Communication with students • Digital slides • Videos • e-class, webmail
TEACHING ORGANIZATION *The ways and methods of teaching are described in detail.* *Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study / creation, project, creation, project. Etc.* *The supervised and unsupervised workload per activity is indicated here, so that total workload per semester*	

Activity	***Workload/semester***
Lectures	39
Assignments	25
Study and analysis of literature	80
Examinations	6
Total	**150**

complies to ECTS standards.	
STUDENT EVALUATION *Description of the evaluation process* *Assessment Language, Assessment Methods, Formative or Concluding, Multiple Choice Test, Short Answer Questions, Essay Development Questions, Problem Solving, Written Assignment, Essay / Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others* *Please indicate all relevant information about the course assessment and how students are informed*	Online progress examinations (multiple-choice and true/false questions): 20% Written final examination (short answer questions, essay-type questions, problem-solving): 80% The examinations are conducted in the Greek language.

5. SUGGESTED BIBLIOGRAPHY

1. Smith DL, Plowman SA, & Ormsbee MJ. (2024). Exercise Physiology for Health, Fitness, and Performance. Konstandaras Publications, Athens (in Greek).
2. Raven PB, Wasserman DH, Squires WG, & Murray TD. (2016). Exercise Physiology: A Holistic Approach. Lagos Dimitrios Medical Publications, Athens (in Greek).
3. Powers SK, & Howley ET. (2017). Exercise Physiology: Theory and Applications to Fitness and Performance. Broken Hill Publishers LTD., Athens (in Greek).

ANNEX OF THE COURSE OUTLINE

Alternative ways of examining a course in emergency situations

Teacher (full name):	Ilias Smilios
Contact details:	ismilios@phyed.duth.gr
Supervisors:	NO
Evaluation methods:	Home assignment (20%) Online distance examination (80%)
Implementation Instructions:	The home assignment must be submitted via e-class on a specified date. The online distance examination will be conducted through e-class with simultaneous connection to Microsoft Teams for identity verification, on a specified date and time.