

COURSE OUTLINE

1. GENERAL

SCHOOL	PHYSICAL EDUCATION & SPORT SCIENCES		
DEPARTMENT	PHYSICAL EDUCATION & SPORT SCIENCES		
LEVEL OF STUDIES	7		
COURSE CODE	L101	SEMESTER	A'
COURSE TITLE	TOOLS AND TECHNIQUES IN FUNCTIONAL EXERCISE		
TEACHING ACTIVITIES <i>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.</i>	TEACHING HOURS PER WEEK	ECTS CREDITS	
	3	7,5	
<i>Please, add lines if necessary. Teaching methods and organization of the course are described in section 4.</i>			
COURSE TYPE <i>Background, General Knowledge, Scientific Area, Skill Development</i>	SCIENTIFIC AREA		
PREREQUISITES:	NO		
TEACHING & EXAMINATION LANGUAGE:	GREEK		
COURSE OFFERED TO ERASMUS STUDENTS:	NO		
COURSE URL:	https://eclass.duth.gr/courses/PHYED3103/		

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.

Course objectives include:

understanding the main causes of musculoskeletal pain as well as the techniques that can help to limit it, to better control the patient's body and posture.

Upon successful completion of this course students will be able to:

- know myology and the functional anatomy of the body
- know all the necessary information about muscle activation (types, movements, levels)
- know the ways of muscle activation and their selection criteria for designing functional rehabilitation programs
- know about eccentric muscle activation and to apply it to the process of prevention and functional management after an injury
- know the causes of musculoskeletal pain in the upper limbs, lower limbs and trunk
- design prevention, intervention and rehabilitation programs for athletes and trainees who experience musculoskeletal pain in the upper limbs, lower limbs and trunk
- know the means and options for immediate treatment and treatment of an injured tissue, ice therapy, warm means, and the effects they have
- know how to apply myofascial relaxation for the upper and lower limbs
- know about motor control and plan an exercise program to improve motor control
- know techniques to improve muscle flexibility

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

Autonomous work

Project design and management

Equity and Inclusion

Respect for the natural environment

Sustainability

Demonstration of social, professional and moral responsibility and

<i>Teamwork</i>	<i>sensitivity to gender issues</i>
<i>Working in an international environment</i>	<i>Critical thinking</i>
<i>Working in an interdisciplinary environment</i>	<i>Promoting free, creative and inductive reasoning</i>
<i>Production of new research ideas</i>	

The general skills that are supported involve:

- Search, analysis and synthesis of data and information, using appropriate ICT
- Adaptation to new situations
- Decision making
- Autonomous work
- Teamwork
- Working in an interdisciplinary environment
- Production of new research ideas
- Project design and management
- Critical thinking
- Promoting free, creative and inductive reasoning

3. COURSE CONTENT

1. Functional exercise - introductory
2. Movement levels, terminology, types of muscle activation (isometric, isotonic & isokinetic exercise), roles of muscles
3. Myology and Functional anatomy
4. Poor posture and musculoskeletal pain in the upper limbs and trunk. Prevention intervention rehabilitation
5. Bad Posture and Musculoskeletal Pain in the lower extremities. Prevention intervention rehabilitation II
6. Use of small equipment in the gym area
7. Techniques and means of myofascial relaxation
8. Exercise as a means of applying myofascial relaxation (upper extremity trunk)
9. Exercise as a means of applying myofascial relaxation II (lower limbs)
10. Motor control - motor control exercises. Designing an exercise program to improve motor control.
11. Techniques to improve muscle flexibility.
12. Proprioception
13. Planning programs to improve proprioception

4. LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD <i>Face to face, Distance learning, etc.</i>	<ul style="list-style-type: none"> - Face to face - Theoretical lectures & Laboratory courses - Distance learning 	
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) <i>Use of ICT in Teaching, in Laboratory Education, in Communication with students</i>	Utilization of new technologies in teaching, laboratory education and communication with students	
TEACHING ORGANIZATION <i>The ways and methods of teaching are described in detail.</i> <i>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.</i> <i>The supervised and unsupervised workload per activity is indicated here, so that total workload per semester complies to ECTS standards.</i>	Activity	Workload/semester
	Lectures	39
	Literature study and analysis	35
	Project	51,5
	Home study	59
	Examination	3
	Total	187,5
STUDENT EVALUATION <i>Description of the evaluation process</i> <i>Assessment Language, Assessment Methods, Formative or Concluding, Multiple Choice Test,</i>	<ol style="list-style-type: none"> 1. Interim evaluations 2. Interest-participation 	

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

3. Written exams including: multiple choice tests, and short answer questions

The assessment languages are Greek

5. SUGGESTED BIBLIOGRAPHY

1. Beneka A., Malliou P., Pafis G., Koutra Ch. Malliou V. (2015). Therapeutic Exercise. Kallipos Publications, Greek Academic Electronic Books and Aids, ISBN 978-960-603-034-5
<http://hdl.handle.net/11419/372>
2. Arsenis, S., Gioftsidou, A., Smilios, I., Malliou, P., Chatzinikolaou, A. (2021). The effect of periodized flywheel training on power of lower limbs. *Journal of Sports Medicine and Physical Fitness*, 61(12), pp. 1563–1569
3. Arsenis, S., Gioftsidou, A., Smilios, I., ...Ispyrilidis, I., Beneka, A. (2021). Flywheel or free weight training for improvement of lower limbs strength? *Journal of back and musculoskeletal rehabilitation*, 34(3), pp. 477–483
4. Daskalaki, K., Pafis, G., Gioftsidou, A., ...Bebetsos, E., Malliou, P. (2020). Investigation of the effects of leg dominance on cross-transfer of flexibility after a unilateral treatment with foam roller-a pilot study. *International Journal of Human Movement and Sports Sciences*, 2020, 8(3), pp. 79–85
5. Matsouka, O., Nani, S., Papadimitriou, K., Beneka, A., Malliou, P. (2020). Time course changes in hand grip strength performance and hand position sense in climbing. *Journal of Human Sport and Exercise*, 2020, 15(1), pp. 23–33
6. Lazarou, L., Kofotolis, N., Malliou, P., Kellis, E. (2017). Effects of two proprioceptive training programs on joint position sense, strength, activation and recurrent injuries after ankle sprains. *Isokinetics and Exercise Science*, 2017, 25(4), pp. 289–300

ANNEX OF THE COURSE OUTLINE

Alternative ways of examining a course in emergency situations

Teacher (full name):	Paraskevi Malliou, Professor
Contact details:	pmalliou@phyed.duth.gr
Supervisors: (1)	No
Evaluation methods: (2)	Written examination with distance learning methods, via eClass. Identification and monitoring of examinees through Microsoft Teams
Implementation Instructions: (3)	<p>The examination in the course will take place in subgroups of users in the e-class, depending on the number of participants in the course, on the day of the examination of the course according to the examination schedule announced by the Secretariat. The exam will take place via Teams.</p> <p>The link will be sent to students via e-class exclusively to the institutional accounts of those who have registered for the course and have been informed of the distance education terms.</p> <p>Students must log in to the exam room through their institutional account, otherwise they will not be able to participate. They will also participate in the examination with a camera which they will have open during the examination. Before the start of the exam, students will show their ID to the camera so that they can be identified.</p> <p>Each student should answer multiple choice, free text development, and short answer questions. Each of the questions is scored from 0.5 to 2.0 points depending on the question category.</p>

(1) Please write YES or NO

(2) Note down the evaluation methods used by the teacher, e.g.

- *written assignment* or/and exercises
- written or oral examination with distance learning methods, provided that the integrity and reliability of the examination are ensured.

(3) In the **Implementation Instructions** section, the teacher notes down clear instructions to the students:

a) in case of **written assignment and / or exercises**: the deadline (e.g. the last week of the semester), the means of submission, the grading system, the grade percentage of the assignment in the final grade and **any other necessary information**.

b) in case of **oral examination with distance learning methods**: the instructions for conducting the examination (e.g. in groups of X people), the way of administration of the questions to be answered, the distance learning platforms to be used, the technical means for the implementation of the examination (microphone, camera, word processor, internet connection, communication platform), the hyperlinks for the examination, the duration of the exam, the grading system, the percentage of the oral exam in the final grade, the ways in which the inviolability and reliability of the exam are ensured and any other necessary information.

c) in case of **written examination with distance learning methods**: the way of administration of the questions to be answered, the way of submitting the answers, the duration of the exam, the grading system, the percentage of the written exam of the exam in the final grade, the ways in which the integrity and reliability of the exam are ensured and any other necessary information.

There should be an attached list with the Student Registration Numbers only of students eligible to participate in the examination.