

## COURSE OUTLINE

### 1. GENERAL

<b>SCHOOL</b>	PHYSICAL EDUCATION & SPORT SCIENCES		
<b>DEPARTMENT</b>	PHYSICAL EDUCATION & SPORT SCIENCES		
<b>LEVEL OF STUDIES</b>	7		
<b>COURSE CODE</b>	K101	<b>SEMESTER</b>	A'
<b>COURSE TITLE</b>	MUSCULOSKELETAL DISORDERS AND EXERCISE		
<b>TEACHING ACTIVITIES</b> <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>	<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>	
	3	7,5	
<i>Please, add lines if necessary. Teaching methods and organization of the course are described in section 4.</i>			
<b>COURSE TYPE</b> <i>Background, General Knowledge, Scientific Area, Skill Development</i>	SCIENTIFIC AREA		
<b>PREREQUISITES:</b>	NO		
<b>TEACHING &amp; EXAMINATION LANGUAGE:</b>	GREEK		
<b>COURSE OFFERED TO ERASMUS STUDENTS:</b>	NO		
<b>COURSE URL:</b>	<a href="https://eclass.duth.gr/courses/PHYED4101/">https://eclass.duth.gr/courses/PHYED4101/</a>		

### 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 musculoskeletal injuries, overuse syndromes and spinal dysfunctions occurring in athletes and trainees, organization and design of functional exercise programs for people with musculoskeletal injuries, overuse syndromes and spinal dysfunctions.

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 the mechanisms of injury to the anterior cruciate ligament of the knee, the surgical treatment of the specific injury, plan and implement functional rehabilitation programs
- know the treatment options after a meniscal tear and plan functional rehabilitation programs for a person who has suffered a meniscal tear
- know the management in low back and neck pain through exercise programs
- know shoulder injuries (dislocation, tendon rupture, rotator cuff tear) and plan functional rehabilitation programs for athletes and trainees

- know the treatment options for an injured person with Fracture or with bone swelling, and to plan functional rehabilitation programs for athletes and trainees
  - know the causes of muscle injuries and plan functional rehabilitation programs for athletes and trainees who have suffered muscle injuries
- know the available treatment options for lower extremity overuse syndromes and plan functional exercise programs
- know the deviations of the spine, lordosis, kyphosis and to plan corrective exercise programs for athletes and trainees who show deviations of the spine
  - know the causes that lead to the appearance of epicondylopathy and to plan prevention, intervention and functional rehabilitation programs for athletes and trainees who have experienced epicondylopathy
  - know the causes of anterior patellofemoral pain and plan rehabilitation and functional exercise 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*

*Autonomous work*

*Teamwork*

*Working in an international environment*

*Working in an interdisciplinary environment*

*Production of new research ideas*

*Project design and management*

*Equity and Inclusion*

*Respect for the natural environment*

*Sustainability*

*Demonstration of social, professional and moral responsibility and sensitivity to gender issues*

*Critical thinking*

*Promoting free, creative and inductive reasoning*

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. Overuse syndromes introduction – Prevention, intervention and rehabilitation
2. Lower extremity overuse syndromes (iliac band, patellar tendinopathy, etc.) functional exercise.
3. Functional anatomy  
types of muscle contraction in rehabilitation programs  
musculoskeletal pain and functional exercise programs  
Overuse syndromes  
Myofascial release  
Anterior cruciate ligament rupture,  
Muscle strain  
Fatigue fractures and functional rehabilitation
4. Chronic low back pain - theory
5. Shoulder to the athlete
6. Meniscal tears
7. Chronic lower back pain. Prevention Intervention Functional rehabilitation
8. Chronic neck pain. Prevention Intervention Functional rehabilitation
9. Anterior patellofemoral pain and functional rehabilitation
10. Kyphosis
11. Lateral epicondylopathy and functional rehabilitation - Medial epicondylopathy and functional rehabilitation
12. Lordosis & flat back
13. Shoulder impingement syndrome and functional rehabilitation

#### 4. LEARNING & TEACHING METHODS - EVALUATION

<p><b>TEACHING METHOD</b> <i>Face to face, Distance learning, etc.</i></p>	<ul style="list-style-type: none"> <li>- Face to face</li> <li>- Theoretical lectures &amp; Laboratory courses</li> <li>- Distance learning</li> </ul>	
<p><b>USE OF INFORMATION &amp; COMMUNICATIONS TECHNOLOGY (ICT)</b> <i>Use of ICT in Teaching, in Laboratory Education, in Communication with students</i></p>	<p>Utilization of new technologies in teaching, laboratory education and communication with students</p>	
<p><b>TEACHING ORGANIZATION</b> <i>The ways and methods of teaching are described in detail.</i> <i>Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research &amp; analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study / creation, project, creation, project. Etc.</i></p> <p><i>The supervised and unsupervised workload per activity is indicated here, so that total workload per semester complies to ECTS standards.</i></p>	<b>Activity</b>	<b>Workload/semester</b>
	Lectures	39
	Literature study and analysis	25
	Project, Project presentation	44,5
	Home study	55
	Practical training	24
	Exams	3
<b>Total</b>	<b>187,5</b>	
<p><b>STUDENT EVALUATION</b> <i>Description of the evaluation process</i></p> <p><i>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</i></p> <p><i>Please indicate all relevant information about the course assessment and how students are informed</i></p>	<ol style="list-style-type: none"> <li>1. Interim evaluations</li> <li>2. Individual project</li> <li>3. Written exams including: multiple choice tests and short answer questions</li> </ol> <p>The assessment languages are Greek</p>	

#### 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. Malliou P., Gioftsidou A., Pafis G., Koutra Ch. (2015). Sports Injuries and Rehabilitation” Kallipos Publications, Greek Academic Electronic Books and Aids, ISBN 978-960-603-004-8  
<http://hdl.handle.net/11419/207>
3. Beneka A., Malliou P., Gioftsidou A. (2014) Neck pain and office workers. An Exercise Program for the Workplace. ACSM’s Health & Fitness Journal, 18(3), 18-24.
4. Beneka A., Malliou P., Kouli O., Gioftsidou A., Papadopoulou M., Bebetos E., Godolias G.M (2015) Evaluating the emotions of patients with chronic low back pain. A preliminary examination. Sport Science for Health, 6(1), 17-22.
5. Malliou P, Gioftsidou A, Beneka A, Godolias G. (2006). Measurements and evaluations in low back pain patients. Scandinavian Journal of Medicine and Science in Sports, 16, 219-230.
6. Prentice W.E. (2007). Sports injury rehabilitation techniques. Parisianou Pub., 960-394-449-1

## ANNEX OF THE COURSE OUTLINE

### Alternative ways of examining a course in emergency situations

<b>Teacher (full name):</b>	Paraskevi Malliou, George Pafis
<b>Contact details:</b>	pmalliou@phyed.duth.gr
<b>Supervisors: (1)</b>	NO
<b>Evaluation methods: (2)</b>	Written examination with distance learning methods, via eClass. Identification and monitoring of examinees through Microsoft Teams
<b>Implementation Instructions: (3)</b>	<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 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.