UNIVERSITY of NICOSIA

ECTS Syllabus

Course title	Exercise Physiology				
Course code	MPTR-553				
Course type	Face to face				
Level	2nd Cycle				
Year / Semester	2nd				
Teacher's name	Dr. Christoforos Giannaki				
ECTS	5	**Lectures / week**	2hrs	**Laboratories / week**	
Course purpose and objectives	The main objectives of the course are to: • analyze the response of the physiological systems of human body to exercise (acute and chronic) in regards both to sports/exercise performance and overall health • study and analyze the synergetic action of the various physiological systems during exercise taking into account the duration, type and intensity of exercise and the environmental conditions as well. Issues regarding the response to exercise of the cardiorepiratory and neuromuscular systems, thermoregulation and exercise metabolism will be examined in depth. • study and analyze the aerobic and anaerobic metabolism's contribution to energy supply and muscle function during exercise. • study, analyze and criticize recent research related to exercise physiology, sports performance and heath. The current course includes both practical and theoretical applications.				
Learning outcomes	After completion of the course students are expected to be able to understand and analyze: 1. Muscle function during exercise and the effects of exercise training in muscle function and performance 2. Function of the nervous system in regards to movement control and the neuromuscular adaptations to exercise training (aerobic and resistance training) 3. Energy systems during exercise (aerobic/anaerobic metabolism, hormones) based in current research in exercise physiology 4. Physiological and metabolic adaptations to exercise training (acute and chronic) 5. Cardiovascular and respiratory responses during exercise; effects of exercise training/lack of exercise 6. Temperature function during exercise (alterations during dehydration, exercise in high temperature etc) 7. Body composition and weight management (in both athletes and general population).				

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<tr><td></td><td colspan="3">8. Application of principles of applied exercise physiology and fitness to try to improve overall health and sports performance
9. Fitness assessment</td></tr>
<tr><td>Prerequisites</td><td>None</td><td>Required</td><td>None</td></tr>
<tr><td>Course content</td><td colspan="3">1. Introduction to exercise and sports physiology
2. Energy systems and exercise (energy transfer in the human body, energy transfer during exercise, assessment of energy expenditure at rest and during exercise)
3. Response of the cardiovascular system to exercise and training
4. Response of the respiratory system to exercise and training
5. Movement control during exercise
6. Exercise training (aerobic and anaerobic exercise training- resistance training)
7. Sports performance and environmental stress (exercise in medium and high altitude, exercise and thermal stress)
8. Exercise, weight loss and body composition
9. Exercise and health
10. Fitness assessment</td></tr>
<tr><td>Teaching methodology</td><td colspan="3">Face to face, Lectures, Discussions, Presentations from students, practical-lab applications</td></tr>
<tr><td>Bibliography</td><td colspan="3">Required Textbooks / Readings:
<table>
<tr><th>Τίτλος</th><th>Συγγραφέας</th><th>Εκδοτικός Οίκος</th><th>Έτος</th><th>ISBN</th></tr>
<tr><td>Physiology of Sports and Exercise (6th ed)</td><td>Kenney L., Wilmore J., Costill D.</td><td>Human Kinetics</td><td>2015</td><td>9781450477673</td></tr>
<tr><td>Physiology of Spor and Exercise (Greek Version)</td><td>Willmore J. & D.L. Costill</td><td>Paschalides</td><td>2006</td><td>9789603994169</td></tr>
</table>
Recommended Textbooks / Readings:
<table>
<tr><th>Τίτλος</th><th>Συγγραφέας</th><th>Εκδοτικός Οίκος</th><th>Έτος</th><th>ISBN</th></tr>
<tr><td>Laboratory Manual for Exercise Physiology, Exercise Testing, and Physical Fitness</td><td>Housh TJ, Cramer JT, Weir JP, Beck TW, Johnson GO.</td><td>Routledge</td><td>2016</td><td>978-1621590460</td></tr>
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	Exercise Physiology- Energy, Nutrition & Human Performance (6th ed)	Mc Ardle Katch and Katch	Lippincott, Williams & Wilkins.	2007	9780781749909 (ISSN) 0781749905
	Exercise Physiology: Theory & Application to Fitness & Performance: Exercise Physiology, 6th ed	Powers, Scott and Howley	McGraw-Hill.	2007	0073028630
Assessment	Final examination, Mid-term exam, Presentation				
Language	English				