

**UNIVERSITY OF THRACE**  
**DEPARTMENT OF PHYSICAL EDUCATION & SPORT SCIENCE**

*UNDERGRADUATE PROGRAM OF STUDY*

**COURSE TITLE:**

Laboratory of physical performance evaluation.
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**COURSE CODE:**

N148
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**E.C.T.S. UNITS**

4
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**RESPONSIBLE FOR THE COURSE:**

NAME	Ioannis G. Fatouros		
POSITION	Assistant Professor		
SECTOR	Sports Training Theory and Application		
OFFICE	B3-10		
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CO-INSTRUCTORS	Aggelousis N, Gourgoulis V, Michalopoulou M, Kourtesis T, Tokmakidis S, Smilios I, Kambas A, Bembetsos E, Gioftsidou A, Malliou V		

**SEMESTER:**

1ST     2ND     3RD     4TH   
5TH     6TH     7TH     8TH

**COURSE TYPE:**

OBLIGATORY   
DIRECTION   
SPECIALIZATION   
PREREQUIZITE FOR SPECIALIZATION   
ELECTIVE (*OPEN*)

**HOURS (per week):**

2
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**DIRECTION**

*(only for 3<sup>rd</sup> & 4<sup>th</sup> year courses)*

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**SPECIALIZATION** *(only for 3<sup>rd</sup> & 4<sup>th</sup> year courses)*

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**LANGUAGE OF TEACHING:**

GREEK

ENGLISH

### **AIM OF THE COURSE** (*content and acquired skills*)

This course aims in the understanding of testing and evaluation procedures of the parameters that delineate human physical performance.

### **COURSE CONTENTS** (*outline – titles of lectures*):

1. Introductory lecture: presentation of course requirements and structure as well as description of the physical performance evaluation process.
2. Exercise Physiology: measurement of energy balance, resting metabolic rate, physical activity energy cost, body composition, respiratory function (spirometry), exercise-related cardiac and lung function.
3. Exercise Physiology: measurement of muscle function, muscle recruitment, electromyography as well as determination of speed-strength performance curve.
4. Study of physical performance: determination cardiovascular exercise intensity and its applicability in exercise program design.
5. Sport Psychology: evaluation of psychological traits of physical performance.
6. Biomechanics: kinematic analysis of sport motion and evaluation of speed of movement.
7. Biomechanics: evaluation of lower limb muscle's power (measurement of jumping ability).
8. Motor learning & control: measurement of reaction time.
9. Motor learning & control: evaluation of acquisition of motor learning ability.
10. Study of physical performance: Evaluation of motor performance as well as measurement of technical and tactical performance.
11. Study of physical performance: evaluation of muscle strength/endurance, speed, and agility.
12. Rehabilitation: isokinetic test and exercise
13. Rehabilitation: measurement of functional ability.

### **TEACHING METHOD** (*lectures – labs – practice etc*):

Laboratory lectures and demonstrations.

### **ASSESSMENT METHOD(-S)**

- Final written exam and/or lab assignments/reports.

### **LEARNING OUTCOMES**

Upon the completion of this course the student will be able to:

- Demonstrate a good understanding of the evaluation of exercise-related cardiorespiratory function.
- Demonstrate a good understanding of the evaluation of musculoskeletal ability.
- Demonstrate a good understanding of the evaluation of motor learning/control ability.
- Demonstrate a good understanding of the evaluation of functional status.
- Demonstrate a good understanding of the evaluation of exercise-related psychological readiness.

Demonstrate a good understanding of the evaluation of exercise kinematics.

**LEARNING OUTCOMES - CONTINUED**

<i>Learning Outcomes</i>	<i>Educational Activities</i>	<i>Assessment</i>	<i>Students Work Load ( hours)</i>
1. Students will be able to perform measurement of exercise-related cardiorespiratory function.	Laboratory lectures and demonstrations	Individual lab reports/assignments.	20
2. Students will be able to perform measurement of musculoskeletal function.	Laboratory lectures and demonstrations	Individual lab reports/assignments.	20
3. Students will be able to perform measurement of motor learning/control ability.	Laboratory lectures and demonstrations	Individual lab reports/assignments.	20
4. Students will be able to perform measurement of functional ability.	Laboratory lectures and demonstrations	Individual lab reports/assignments.	20
5. Students will be able to perform evaluation of psychological readiness.	Laboratory lectures and demonstrations	Individual lab reports/assignments.	20
6. Students will be able to understand kinematic evaluation of sport motion.	Laboratory lectures and demonstrations	Individual lab reports/assignments.	20
		<b>TOTAL</b>	<b>120</b>

**OBLIGATORY & SUGGESTED BIBLIOGRAPHY:**

1. American College of Sports Medicine (ACSM). Guidelines for exercise testing and prescription. Athloto, Athens, 2008.
2. Kollias H. Biomechanics of Sport Motions. Christodoulidis Publications, Thessaloniki, 2002.
3. Klissouras V. Ergometry. Simmetria Publications, Athens, 2003.