

DEMOCRITUS UNIVERSITY OF THRACE
DEPARTMENT OF PHYSICAL EDUCATION & SPORT SCIENCE

UNDERGRADUATE PROGRAM OF STUDY

COURSE TITLE:

Sports Physiology

COURSE CODE:

N313

ECTS CREDITS

7

RESPONSIBLE FOR THE COURSE:

NAME	Ilias Smilios	
POSITION	Lecturer	
SECTOR	Sports training	
OFFICE	B 3-14	
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CO-INSTRUCTORS	Savvas Tokmakidis, Professor	

SEMESTER:

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

COURSE TYPE:

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

HOURS (per week):

2

DIRECTION

(only for 3rd & 4th year courses)

SPORTS TRAINING	
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SPECIALIZATION *(only for 3rd & 4th year courses)*

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LANGUAGE OF TEACHING:

GREEK

ENGLISH

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

The aim of the 'Sports Physiology' course is provide knowledge about the physiological factors that determine human performance and the biological adaptations observed with various forms of training. Furthermore, the physiological bases for training aerobic and anaerobic sports as well as sports that require strength, power and speed are analyzed. In addition, information is given about the specific physiological characteristics of youth and women that should be considered for training program design as well as the effects of nutrition, environmental factors and ergogenic aids on human performance.

COURSE CONTENTS (*outline – titles of lectures*)

1. Physiological factors limiting aerobic performance
2. Physiological bases of aerobic training
3. Physiological adaptations with aerobic training
4. Anaerobic capacity: physiological bases
5. Biological adaptations with anaerobic training
6. Physiology of strength and speed training I
7. Physiology of strength and speed training II
8. Laboratory practice I
9. Laboratory practice II
10. Body composition, nutrition and sports performance
11. Biological adaptations with training in youth
12. Ergogenic aids and human performance
13. Physiological adaptations with training in extreme environments

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

- Lectures
- Laboratory practice

ASSESSMENT METHOD(-S)

- Review project
- Mid-term exams
- Final exam

LEARNING OUTCOMES

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

- identify the physiological factors that determine performance in aerobic and anaerobic sports and in sports that require strength, power and speed.
- use basic physiological parameters for the evaluation of training programs.
- search in the scientific literature about the physiological aspects of exercise and find useful information for their profession.

LEARNING OUTCOMES - CONTINUED

<i>Learning Outcomes</i>	<i>Educational Activities</i>	<i>Assessment</i>	<i>Students Work Load (hours)</i>
Identification of the physiological factors that determine performance in aerobic and anaerobic sports and in sports that require strength, power and speed	Lectures	Mid-term and Final exams	100
Use of basic physiological parameters for the evaluation of training programs	Laboratory classes	Writing assignments	40
Search the scientific literature about the physiological aspects of exercise and find information useful for their profession.	Literature review	Review project	70
		TOTAL	210

OBLIGATORY & SUGGESTED BIBLIOGRAPHY:

1. Klisouras V. (2004). *Ergophysiology*. P.Ch. Pasxalidis Editions, Athens.
2. Willmore J. and D.L. Costill (2005). *Physiology of sport and exercise*. P.Ch. Pasxalidis Editions, Athens.
3. Powers S. & Howley E. (2007). *Exercise Physiology: Theory and Application to Fitness and Performance*. McGraw Hill, UK.
4. Whyte G. (2006). *The physiology of training*. Churchill Livingstone Elsevier, UK