

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

*UNDERGRADUATE PROGRAM OF STUDY*

**COURSE TITLE:**

Evaluation and design of rehabilitation programs
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**COURSE CODE:**

N542
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**E.C.T.S. CREDITS**

8
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**RESPONSIBLE FOR THE COURSE:**

NAME	Vivian Malliou, Anastasia Beneka		
POSITION	Associate Professor, Associate Professor		
SECTOR	Exercise and Health		
OFFICE	Therapeutic Exercise and Rehabilitation Laboratory		
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CO-INSTRUCTORS	Asimena Gioftsidou, Lecturer		

**SEMESTER:**

1 <sup>st</sup>	[ ]	2 <sup>nd</sup>	[ ]	3 <sup>rd</sup>	[ ]	4 <sup>th</sup>	[ ]
5 <sup>th</sup>	[ ]	6 <sup>th</sup>	[X]	7 <sup>th</sup>	[ ]	8 <sup>th</sup>	[ ]

**COURSE TYPE:**

Obligatory	[ ]
Direction	[ ]
Specialization	[X]
Prerequisite for specialization	[ ]
Elective ( <i>open</i> )	[ ]

**HOURS (per week):**

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

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

Rehabilitation training on musculoskeletal injuries and disorders
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**LANGUAGE OF TEACHING:**

Greek [X]                      English [ ]

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

<p>The aim of this course is to familiarize students with: 1) the design, implementation and assessment of exercise programs aimed at rehabilitating athletes after suffering sports injuries, 2) the different phases of rehabilitation (acute, improve mobility, strength, proprioception and functional rehabilitation), 3) examples of exercises that are used depending on the specifics of each injury and 4) ligament and muscle injuries of the upper and lower extremities.</p>
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**COURSE CONTENTS** (*outline – titles of lectures*):

1. Essential considerations in designing a rehabilitation program.
2. Understanding the healing process through rehabilitation.
3. The evaluation process – Isokinetic exercises.
4. Psychological consideration for rehabilitation of the injured athlete.
5. Reestablishing neuromuscular control.
6. Restoring the range of motion and improving flexibility.
7. Regaining muscular strength, endurance and power.
8. Maintaining cardiorespiratory fitness during rehabilitation.
9. Core stabilization training in rehabilitation.
10. Plyometrics in rehabilitation.
11. Open vs. closed – Kinetic - Chain exercise in rehabilitation.
12. Joint mobilization and traction techniques in rehabilitation.
13. PNF and other soft-tissue mobilization techniques in rehabilitation.
14. Functional progression and functional testing in rehabilitation.
15. Evaluation and rehabilitation program design for ankle sprain.
16. Evaluation and rehabilitation program design for ACL rupture.
17. Evaluation and rehabilitation program design for medial and lateral ligament partial or total rupture.
18. Evaluation and rehabilitation program design after meniscectomy.
19. Evaluation and rehabilitation program design for quadriceps strain.
20. Evaluation and rehabilitation program design for hamstring strain.
21. Evaluation and rehabilitation program design for shin fracture.
22. Evaluation and rehabilitation program design for fatigue fracture.
23. Evaluation and rehabilitation program design for groin pain.
24. Evaluation and rehabilitation program design for shoulder impingement.
25. Evaluation and rehabilitation program design for glenohumeral dislocations.
26. Evaluation and rehabilitation program design for elbow tendonitis.

**TEACHING METHOD(S)** (*lectures – labs – practice etc.*):

1. Lectures.
2. Laboratory lessons – exercises.

**ASSESSMENT METHOD(S):**

Active participation in class	(10%)
Mid term exams	(30%)
Rehabilitation program presentation	(30%)
Final exams	(30%)

**LEARNING OUTCOMES:**

Upon the completion of this course the students will be able to: 1) recognize the early symptoms of an athletic injury and b) design, organize and implement an intervention rehabilitation program for each specific sports injury.

**LEARNING OUTCOMES – CONTINUED:**

<i>Learning Outcomes</i>	<i>Educational Activities</i>	<i>Assessment</i>	<i>Students Work Load (hours)</i>
Ability to recognize the early symptoms of an athletic injury.	Lectures, demonstration / discussion of digital material, home study.	Mid term exams, problem solving project.	120
Ability to design, organize and implement an intervention rehabilitation program for each specific sport injury.	Lectures, demonstration / discussion of digital material, problem solving projects, home study.	Mid term exams, problem solving project.	120
		<b>TOTAL</b>	<b>240</b>

**OBLIGATORY & SUGGESTED BIBLIOGRAPHY:**

1. Houglum, P.A. (2001). Therapeutic exercises for athletic injuries. Champaign IL: Human Kinetics.
2. Fu, F.H. & Stone, D.A. (1994). Sports injuries, mechanisms, prevention, treatment. Baltimore: Williams & Wilkins.
3. Canavan, P.K. (1998). Rehabilitation in sports medicine: a comprehensive guide. Upper Saddle River, NJ: Prentice Hall.
4. Prentice, W.E. (2007). Rehabilitation techniques in sports medicine and athletic training. 5<sup>th</sup> edition, New York: McGraw-Hill.
5. Shultz, S.J., Houglum, P.A. & Perrin, D.H. (2009). Εξέταση μυοσκελετικών κακώσεων. Αθήνα: Παρισσιανός.