

DEMOCRITUS UNIVERSITY OF THRACE
DEPARTMENT OF PHYSICAL EDUCATION & SPORT SCIENCE

UNDERGRADUATE PROGRAM OF STUDY

COURSE TITLE:

Exercise for special diseases

COURSE CODE:

N337

E.C.T.S. CREDITS

7

RESPONSIBLE FOR THE COURSE:

NAME	Vivian Malliou		
POSITION	Associate Professor		
SECTOR	Exercise and Health		
OFFICE	Rehabilitation Lab Office		
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CO-INSTRUCTORS	Nickos Aggeloussis, Menia Gioftsidou		

SEMESTER:

1 st	[]	2 nd	[]	3 rd	[]	4 th	[]
5 th	[]	6 th	[]	7 th	[]	8 th	[X]

COURSE TYPE:

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

HOURS (*per week*):

2

DIRECTION (*only for 3rd & 4th year courses*):

Exercise for Special Populations	
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SPECIALIZATION (*only for 3rd & 4th year courses*):

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LANGUAGE OF TEACHING:

Greek [X] English []

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

<p>The course aims to teach students: a) selected specific diseases and how they are treated with specialized exercise programs, b) the basic pathophysiology, predisposing factors, movement and mobility problems and dysfunctions in people suffering from these diseases, c) the effects of exercise on treating the symptoms of these diseases and d) how to plan and implement appropriate exercise programs for patients with these diseases.</p>
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COURSE CONTENTS (*outline – titles of lectures*):

1. Chronic obstructive pulmonary disease (COPD) (predisposing factors, causes, pathophysiology) - Special exercises for people with COPD.
2. Asthma - Bronchial asthma in elite athletes (predisposing factors, causes, pathophysiology).
3. Exercise design and types of exercise for patients with asthma.
4. Diabetes (types, clinical symptoms).
5. Exercise capacity and types of exercise for patients in different types of diabetes.
6. Exercise acute and chronic adaptations in patients with diabetes mellitus.
7. Obesity (pathophysiology, predisposing factors, weight control, resting metabolic rate and exercise).
8. Movement clinical assessment for patients with neuromuscular diseases.
9. Laboratory assessment of mobility for patients with neuromuscular diseases.
10. Exercise for stroke patients.
11. Exercise for patients with Parkinson's disease.
12. Exercise for gait improvements for children with cerebral palsy.
13. Course summary.

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

1. Lectures.
2. Workshops.
3. Laboratory activities.
4. Field work.

ASSESSMENT METHOD (S):

1. Mid-term exams (60%)
2. Final exams (40%)

LEARNING OUTCOMES:

Upon the completion of this course the student will be able to know: 1) the pathophysiology and predisposing factors for specific diseases, such as chronic obstructive pulmonary disease, asthma, diabetes, obesity, stroke, Parkinson's disease and cerebral palsy, 2) the acute and chronic effects of exercise on these specific diseases, 3) how to design and implement exercise programs to address their symptoms and dysfunctions and 4) the procedures for assessing predisposing factors, dysfunctions and mobility problems in patients with these specific diseases.

LEARNING OUTCOMES – CONTINUED:

<i>Learning Outcomes</i>	<i>Educational Activities</i>	<i>Assessment</i>	<i>Student Work Load (hours)</i>
Knowledge of the pathophysiology and predisposing factors for specific diseases such as chronic obstructive pulmonary disease, asthma, diabetes, obesity, stroke,	Lectures, demonstration and discussion on digital material, home study	Mid-term exams, final exams.	50

Parkinson's disease and cerebral palsy.			
Knowledge of the acute and chronic effects of exercise on these specific diseases.	Lectures, comprehension exercises, home study.	Mid-term exams, final exams.	50
Ability to design and implement exercise programs to address their symptoms and dysfunctions.	Lectures, comprehension exercises, home study.	Mid-term exams, final exams.	50
Knowledge of the procedures for assessing predisposing factors, dysfunctions and mobility problems in patients with these specific diseases.	Lectures, lab exercises, home study	Mid-term exams, final exams.	60
		TOTAL	210

OBLIGATORY & SUGGESTED BIBLIOGRAPHY:

1. Roitman, J.L. (2001). ACSM's resource manual for guidelines for exercise testing and prescription. Baltimore: American College of Sports Medicine.
2. Nieman, D.C. (1998). The exercise - health connection. Champaign, IL: Human Kinetics.
3. Frontera, W.R. (1999). Exercise in rehabilitation medicine. Champaign, IL: Human Kinetics.
4. Wikgren, S. (1997). ACSM's exercise management for persons with chronic diseases and disabilities. Baltimore: American College of Sports Medicine.
5. Skinner, J.S. (1993). Exercise testing and exercise prescription for special cases. 2nd edition, Baltimore: Williams & Wilkins..
6. Dirocco, J.P. (1995). Physical disabilities: general characteristics and exercise implications. In P.D. Miller (editor), Fitness programming and physical disability (pp: 11-34), Champaign, IL: Human Kinetics.
7. Kelly, E.L. (1995). Spinal cord impairments. In J.P. Winnick, 2nd edition, Adapted physical education and sport (pp:193-212), Champaign, IL: Human Kinetics.
8. Αγγελούπουλου – Σακαντάμη, Ν. (2004). Ειδική αγωγή (αναπτυξιακές διαταραχές & χρόνιες μειονεξίες), Θεσσαλονίκη: Εκδόσεις Πανεπιστημίου Μακεδονίας.
9. Sherill, C. (1993). Adapted physical activity, recreation and sport: crossdisciplinary and lifespan. 4th edition, Dubuque, IA: Wm C. Brown.
10. Auxter, D., Pyfer, J. & Huettig, C. (1993). Principles and methods of adapted physical education and recreation. 7th edition, St. Louis: Mosby.
11. Αγγελούσης, Ν. (2005) Μέθοδοι αξιολόγησης του βαδίσματος σε άτομα με κινητικά προβλήματα των κάτω άκρων. Πανεπιστημιακές παραδόσεις. Κομοτηνή: Τυπογραφείο Δημοκρίτειου Πανεπιστημίου Θράκης.
12. Craik, R.L. & Oatis, C.A. (1995). Gait analysis: theory and application. St. Louis: Mosby.