UNIVERSITY OF PATRAS

SCHOOL OF HEALTH REHABILITATION SCIENCES

DEPARTMENT OF PHYSIOTHERAPY

Detailed Course Outlines

Academic Year 2023-24

Department of Physiotherapy

http://physio.upatras.gr

Table of Contents

Curriculum of the Undergraduate Physiotherapy Programme

The Bachelor's Undergraduate Curriculum is provided in detail in the following pages presenting for each semester the course title and code, lectures, tutorials, laboratory exercise, clinical practice, workload, and credits per course.

	1ST SEMESTER							
COURSE		WEEKLY TEACHING HOURS				COURSE		
COURSE CODE	COURSE TITLE	LECTURES	TUTORIALS	LABORATORY EXERSISE	CLINICAL PRACTICE	CREDITS	GRAVITY FACTOR	ECTS
PTH_101	ANATOMY OF MUSCULOSKELETAL SYSTEM	3	-	2	-	4	1,5	6
PTH_102	ANATOMY OF THE NERVOUS SYSTEM AND ORGANS	3	-	-	-	3	1,5	5
PTH_103	PHYSIOLOGY	3	-	-	-	3	1,5	5
PTH_104	KINESIOLOGY OF THE TRUNK	2	1	2	-	4	1,5	6
PTH_105	PRINCIPLES OF BIOPHYSICS - ELECTROPHYSIOLOGY	3	-	-	-	3	1,5	4
PTH_106	ENGLISH LANGUAGE - TERMINOLOGY	3	-	-	-	3	1,5	4
	TOTAL (22 TEACHING HOURS)	**17**	**1**	**4**	**0**	**20**	**-**	**30**

	2ND SEMESTER							
COURSE		WEEKLY TEACHING HOURS						
COURSE CODE	COURSE TITLE	LECTURES	TUTORIALS	LABORATORY EXERSISE	CLINICAL PRACTICE	CREDITS	GRAVITY FACTOR	ECTS
PTH_201	PATHOPHYSIOLOGY -BASIC PRINCIPLES OF PATHOLOGY	3	1	-	-	4	1,5	6
PTH_202	PHARMACOLOGY FOR PHYSIOTHERAPISTS	3	-	-	-	3	1,5	4
PTH_203	NEUROPHYSIOLOGY	3	-	-	-	3	1,5	4
PTH_204	KINESIOLOGY OF THE EXTREMITIES	2	1	2	-	4	1,5	7
PTH_205	SOFT-TISSUE TECHNIQUES IN PHYSIOTHERAPY	2	-	2	-	3	1,5	5
	OPTIONAL SPRING SEMESTER MODULE	2	-	-	-	2	1,0	4
	TOTAL (21 TEACHING HOURS)	**15**	**2**	**4**	**0**	**19**	**-**	**30**

	3RD SEMESTER							
COURSE		WEEKLY TEACHING HOURS						
COURSE CODE	COURSE TITLE	LECTURES	TUTORIALS	LABORATORY EXERSISE	CLINICAL PRACTICE	CREDITS	GRAVITY FACTOR	ECTS
PTH_301	GENERAL SURGERY – ORTHOPAEDICS	3	1	-	-	4	1,5	6
PTH_302	NEUROLOGY	3	-	-	-	3	1,5	4
PTH_303	PRINCIPLES OF CARDIO-RESPIRATORY PHYSIOTHERAPY	3	-	-	-	3	1,5	5
PTH_304	KINESIOTHERAPY	2	-	1	1	3	1,5	5
PTH_305	CLINICAL PATIENT MANAGEMENT	2	-	-	4	4	1,5	6
PTH_306	BIOMECHANICS	3	-	-	-	3	1,5	4
	TOTAL (23 TEACHING HOURS)	**16**	**1**	**1**	**5**	**20**	**-**	**30**

	4TH SEMESTER							
COURSE		**WEEKLY TEACHING HOURS**						
COURSE CODE	**COURSE TITLE**	**LECTURES**	**TUTORIALS**	**LABORATORY EXERSISE**	**CLINICAL PRACTICE**	**CREDITS**	**GRAVITY FACTOR**	**ECTS**
PTH_401	CLINICAL CARDIO-RESPIRATORY PHYSIOTHERAPY	2	-	-	6	5	2,0	6
PTH_402	PRINCIPLES OF MUSCULOSKELETAL PHYSIOTHERAPY	3		-	-	3	1,5	5
PTH_403	CLINICAL PHYSIOTHERAPEUTIC ASSESSMENT	3	-	1	1	4	1,5	**6**
PTH_404	CLINICAL REASONING AND DECISION MAKING IN PHYSIOTHERAPY	2	-	-	1	2,5	1,5	4
PTH_405	PHYSICAL MODALITIES – CLINICAL ELECTROTHERAPY	2	-	1	1	3	1,5	5
	OPTIONAL SPRING SEMESTER MODULE	2	-	-	-	2	1,0	4
	TOTAL (25 TEACHING HOURS)	**14**	**-**	**2**	**9**	**19,5**	-	**30**

	5TH SEMESTER							
COURSE		WEEKLY TEACHING HOURS						
COURSE CODE	COURSE TITLE	LECTURES	TUTORIALS	LABORATORY EXERSISE	CLINICAL PRACTICE	CREDITS	GRAVITY FACTOR	ECTS
PTH_501	CLINICAL MUSCULOSKELETAL PHYSIOTHERAPY I	2	1	-	6	6	2,0	8
PTH_502	PRINCIPLES OF NEUROLOGICAL PHYSIOTHERAPY	3	-	-	-	3	1,5	5
PTH_503	MANIPULATIVE PHYSIOTHERAPY	2	-	1	1	3	1,5	5
PTH_504	PATHOKINESIOLOGY	3	-	-	-	2	1,5	4
	OPTIONAL WINTER SEMESTER MODULE	2	-	-	-	2	1,0	4
	OPTIONAL WINTER SEMESTER MODULE	2	-	-	-	2	1,0	4
	TOTAL (23 TEACHING HOURS)	**14**	**1**	**1**	**7**	**19**	**-**	**30**

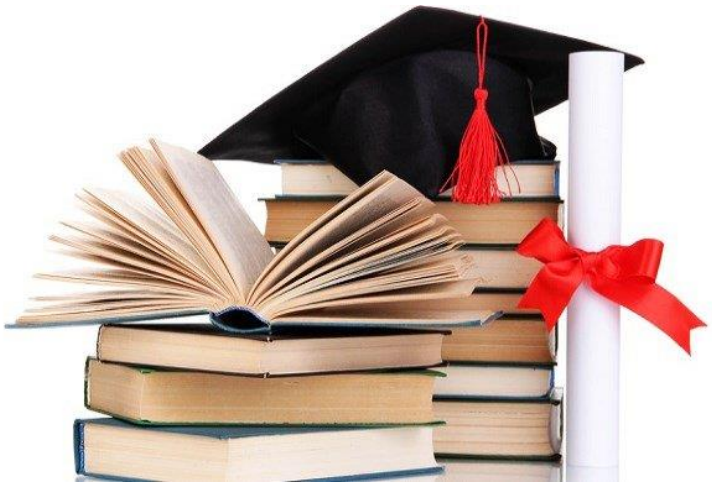
	6TH SEMESTER							
COURSE		**WEEKLY TEACHING HOURS**						
COURSE CODE	**COURSE TITLE**	**LECTURES**	**TUTORIALS**	**LABORATORY EXERSISE**	**CLINICAL PRACTICE**	**CREDITS**	**GRAVITY FACTOR**	**ECTS**
PTH_601	CLINICAL MUSCULOSKELETAL PHYSIOTHERAPY II	2	1	-	6	6	2,0	9
PTH_602	CLINICAL PAEDIATRIC PHYSIOTHERAPY	2	1	-	6	6	2,0	9
PTH_603	THERAPEUTIC EXERCISE FOR MUSCULOSKELETAL PATHOLOGIES - INJURIES	3	-	-	-	3	1,5	4
PTH_604	PHYSIOTHERAPY FOR SPECIAL POPULATIONS	3	-	-	-	3	1,5	4
	OPTIONAL WINTER SEMESTER MODULE	2	-	-	-	2	1,0	4
	TOTAL (26 TEACHING HOURS)	**12**	**2**	**0**	**12**	**20**	**-**	**30**

	7TH SEMESTER							
COURSE		WEEKLY TEACHING HOURS						
COURSE CODE	COURSE TITLE	LECTURES	TUTORIALS	LABORATORY EXERSISE	CLINICAL PRACTICE	CREDITS	GRAVITY FACTOR	ECTS
PTH_701	ADULT CLINICAL NEUROLOGICAL PHYSIOTHERAPY	2	1	-	6	6	2,0	9
PTH_702	SPORTS PHYSIOTHERAPY	2	-	1	1	3	1,5	5
PTH_703	DISABILITY AND FUNCTIONAL REHABILITATION	3	-	-	-	3	1,5	4
PTH_704	RESEARCH METHODOLOGY IN HEALTH SCIENCES	2	-	1	-	2,5	1,5	4
PTH_705	DIAGNOSTIC IMAGING	3	-	-	-	3	1,5	4
	OPTIONAL WINTER SEMESTER MODULE	2	-	-	-	2	1,0	4
	TOTAL (24 TEACHING HOURS)	14	1	2	7	**19,5**	**-**	**30**

	8TH SEMESTER							
COURSE		WEEKLY TEACHING HOURS						
COURSE CODE	COURSE TITLE	LECTURES	TUTORIALS	LABORATORY EXERSISE	CLINICAL PRACTICE	CREDITS	GRAVITY FACTOR	ECTS
PTH_801	CLINICAL PRACTICE IN PHYSIOTHERAPY	-	-	-	40	20	2,0	14
PTH_802	EMERGENCY MEDICINE AND TRAUMATOLOGY	3	-	-	-	3	1,5	4
PTH_803	PAIN AND CLINICAL MANAGEMENT	3	-	-	-	3	1,5	4
	THESIS OR 2 OPTIONAL WINTER SEMESTER MODULES	4	-	-	-	4	1,5	8
	TOTAL (50 TEACHING)	**10**	**0**	**0**	**40**	**30**	**-**	**30**

Detailed Course Outlines

Following is an analytical overview of each course, distributed every semester, in which the student can find the learning outcomes, information about teaching and evaluation methods for each course, proposed Greek and English language literature and related scientific journals.



COURSE OUTLINES

1ST SEMESTER

COURSE OUTLINE

ANATOMY OF MUSCOLOSKELETAL SYSTEM

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH101**	**SEMESTER**	**1st**
COURSE TITLE	**ANATOMY OF MUSCOLOSKELETAL SYSTEM**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**ECTS CREDITS**
LECTURES	3	6
LABORATORY	2	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	General Background
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Cardio-Respiratory Physiotherapy (4th)** • **Clinical Musculoskeletal Physiotherapy I (5th)** • **Clinical Musculoskeletal Physiotherapy II (6th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek, English (optional)
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes
The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

LECTURES - theoretical part - Learning outcomes

By the end of the theoretical part of this module students will have acquire the specific knowledge and skills to

• Describe the structure and function of skull sutures and fontanelles.
• Locate and identify the auditory ossicles.
• Describe the cross-sectional structure of a vertebra.
• Locate and identify bones, major bony landmarks, and ligaments of the Vertebral column.
• Describe how some bones are stabilized by muscles.
Identify the three types of muscle and describe the muscular system's functions.
• Describe the location and function of skeletal muscles.
• Locate and identify smooth muscle in the body.
• Locate and identify the blood vessels and conduction system that supply and Innervate cardiac muscle.
• Describe the distinguishing features of each of the three types of muscle.
• Locate and identify the major skeletal muscle regions of the body.
• Describe the blood supply and innervation of skeletal muscles.
• Describe the microscopic structure of skeletal muscle tissue.
• Explain how an impulse generated by the central nervous system results in the contraction of a skeletal muscle.

LABORATORY exercises – Practical part - Learning outcomes
By the end of the practical part of this module the students will gain the knowledge, the skills and the ability to
1. Understand individual disease mechanisms
2. Combine the basic knowledge of anatomy with other knowledge of individual courses of clinical Practice of Physiotherapy
3. Analyze and combine clinical information from the physical examination of the patient with the anatomical substrate of diseases and disease situations in corresponding problems (problem based learning)
4. identify -locate :
   • Locate and identify bones of the thoracic cage.
   • Locate and identify the structures thatmake up the appendicular skeleton.
   • Locate and identify the bones and major landmarks of the shoulder girdle.
   • Locate and identify the bones and major landmarks of the upper and lower limbs.
5. Use knowledge of surface anatomical and leading points in the process of clinical examination and physiotherapeutic assessment of patients

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

Search, analyse and present data and information, using the appropriate technologies.
Decision making
Independent or team work

3. SYLLABUS

LECTURES - theoretical part

Anatomical vocabulary, anatomical descriptive terms, Anatomical position of the human body, planes and axes of the body

Body cavities, epithelial tissue and serous membranes.

Buttock region (hip joint, muscles, vessels, nerves)

- Thigh (femoral bone, muscles, vessels, nerves)
- Knee (knee joint, muscles, vessels, nerves)
- Calf region (bones, anatomical compartments, muscles, vessels, nerves).
- Foot and ankle (ankle joint, small joints of the foot, muscles, vessels, nerves).
- Clinical and imaging correlations

LABORATORY exercises – Practical part

Palpate and Surface Anatomy

- Surface anatomy of lower limb
- Shoulder region (Joints, muscles, vessels, nerves)
- Arm region (humerus, muscles, vessels, nerves)
- Elbow (Joints, muscles, vessels, nerves)
- Forearm (bones, anatomical compartments, muscles, vessels, nerves)
- Hand and wrist (wrist joint, small joints of the hand, muscles, vessels, nerves)
- Clinical and imaging correlations

• Surface and palpate anatomy of upper and lower limb

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Lectures,tutorials, seminars theoretical part - and Laboratory exercises – practical part work face to face in small groups.
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint presentations) in teaching. The lectures content of the course for each chapter are uploaded on the internet (e-class platform), in the form of a series of ppt files, where from the students can freely download them using a password which is provided to them at the beginning of the course. Use of instructional Anatomy Videos Use of digital body slices through Virtual Anatomy
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	***Activity*** / ***Semester workload*** **Lectures theoretical part** — 40 Case studies — 10 Projects — 10 **Laboratory exercises**. Practical part — 40 Hours of private study — 70 Course total — ***170***
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	**Lectures – theoretical part** Written examination at the end of the semester (multiple choice questions,true-false, short answers, clinical problem solving) - Minimum passing grade: 5. **Laboratory exercises. - Practical part** Oral examination in surface and palpate anatomy, and case scenarios

5. ATTACHED BIBLIOGRAPHY

- *Suggested bibliography:*

Greek

1.Γιγής Π. (2002). Εισαγωγή στην Ανατομία του Ανθρώπου. University Studio press.

2.Γιγής Π., Παρασκευάς Γ. (1999). Νευροανατομία. Κεντρικό Νευρικό Σύστημα. University Studio press.

3.Grays Anatomy by Drake R., Vogl W., Mitchell A.(2007). (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές εκδόσεις Πασχαλίδη.

4.Fitzerald MJ, Gruener G, Mitui E. Κλινική Νευροανατομία και Νευροεπιστήμες (2009). (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Πασχαλίδη.

5.Haines R. Νευροανατομία. (Μετάφραση Αγγλικής Έκδοσης), Λειτουργίες και κλινικές εφαρμογές. Ιατρικές Εκδόσεις Πασχαλίδη, 1999.

6.Kahle, Leonard, Platzer (1985). Εγχειρίδιο Ανατομικής με έγχρωμο Άτλαντα (τόμος Ι, Μυοσκελετικό). (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Πασχαλίδη, Αθήνα.

7.Moore (1998). Κλινική Ανατομική. (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Πασχαλίδη, Αθήνα.

8.Schnell R. (2009). Κλινική Ανατομική. (Μετάφραση Αγγλικής Έκδοσης), Εκδόσεις Λίτσας, Αθήνα.

English

1.Blummenfeld H. (2002). Neuroanatomy through clinical cases. Sinauer Associates.

2.Martin J. (2003). Neuroanatomy, Text and Atlas. McGraw and Hill.

3.Schnell R. (2009). Clinical Neuroanatomy. Lipinncott.

COURSE OUTLINE

ANATOMY OF THE NERVOUS SYSTEM AND ORGANS

1. GENERAL

SCHOOL	**HEALTH AND REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_102**	**SEMESTER**	**1st**
COURSE TITLE	**ANATOMY OF THE NERVOUS SYSTEM AND ORGANS**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	3	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	General Background
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Paediatric Physiotherapy (6th)** • **Adult Clinical Neurological Physiotherapy (7th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*

- *Guidelines for writing Learning Outcomes*

After the completion of the course, the students will have obtained an:

● In depth knowledge of the anatomy of the Central Nervous System (CNS) and the Peripheral Nervous System (PNS) and the skills to locate anatomically particular structures based on superficial guide points.
● In depth knowledge of the all structures of the CNS and PNS and of the function of each structure.
● In depth knowledge of the anatomy of the Autonomic Nervous System (ANS) and the ability to locate particular structures of the ANS. Additionally, they will have the specific knowledge of the function of the Sympathetic and Parasympathetic Systems
● In depth knowledge knowledge of the sensory-kinetic systems and their integration (tracts and function)
● In depth knowledge knowledge of the circulatory, respiratory, digestive systems, and in brief the urinary and genital systems.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Decision-making
Working independently
Team work
Criticism and self-criticism

3. SYLLABUS

Students will study the anatomy of the nervous system starting from the study of the structures of the CNS (cerebrum, thalamus, hypothalamus, basal ganglia, brain stem, cerebellum and cranial nerves). In particular, where each structure is located, its shape and its function. Students will also study in depth the structures of the PNS (spinal cord, peripheral nerves), where each of these structures is located, its shape and function. The PNS system will be also analysed to its parts, Somatic and Autonomic Nervous System and the role of each as well as the role of the Sympathetic and the Parasympathetic Nervous System, i.e. which structures constitute each of these systems and what is their function.

The students will also study in depth the anatomy and function of the sensory and motor pathways as well as their integration.

Additionally, the parasympathetic innervation of the bowels. Respiratory system, (nose, nasal cavities, larynx, tracheal tree, alveoli). Anatomical position and points of auscultation of respiratory murmur. Pleural cavity, mediastinum and anatomical division of the mediastinum. Circulatory system, heart, chambers of heart, valves, pulmonary and systemic circulation. Points of auscultation of heart valves. Route and primary branches of aorta. Points of artery palpation. Digestive system. Peritoneal cavity. Gastrointestinal tract (pharynx, esophagus, stomach, large and small intestine. Liver, pancreas, spleen and hepatic ducts system. Briefly the portal circulation. Urinary system. Anatomical position of kidneys, of the urinary tracts and bladder. Kidneys, renal corpuscles and pelvis. Genital system, in briefly the internal genitals of man and woman.

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>- Face to face
- Using anatomy models
- Discussions in e-class platform
- Problem solving to scenarios (case studies)</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>• Discussions in the e-class platform
• Videos
• Multimedia</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Theoretical part:</td><td>150</td></tr>
<tr><td>Lectures, interactive teaching, project,</td><td>90</td></tr>
<tr><td>Seminars/ presentations of clinical cases</td><td>30</td></tr>
<tr><td>Individual (independent) study</td><td>30</td></tr>
<tr><td>Course total (25 hours of workload per credit)</td><td>150</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple</td><td>Evaluation:
Multiple choice questions, Questions of short answers, Problem solving, Questions to elaborate, Written assignment (potential ways of evaluation).

Assessment of theory takes place at the end of the semester and in September during the 2nd exams period, using written</td></tr>
</table>

choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	examination. Language of Evaluation: Greek, and English for Erasmus students For **Erasmus students** the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will be provided by the tutor and agreed by the student. Grade of written exam is 100% of the student's grade for the course. If the teacher wishes voluntary assignments can be given during the semester and which assignments are taken into account for the student's final grade.

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

Γίγης Π. (2002). Εισαγωγή στην Ανατομία του Ανθρώπου. University Studio press.

Γίγης Π., Παρασκευάς Γ. (1999). Νευροανατομία. Κεντρικό Νευρικό Σύστημα. University Studio press.

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Haines R. Νευροανατομία. (Μετάφραση Αγγλικής Έκδοσης), Λειτουργίες και κλινικές εφαρμογές. Ιατρικές Εκδόσεις Πασχαλίδη, 1999.

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Moore (1998). Κλινική Ανατομική. (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Πασχαλίδη, Αθήνα.

Schnell R. (2009). Κλινική Ανατομική. (Μετάφραση Αγγλικής Έκδοσης), Εκδόσεις Λίτσας, Αθήνα

Blummenfeld H. (2002). Neuroanatomy through clinical cases. Sinauer Associates.

Martin J. (2003). Neuroanatomy, Text and Atlas. McGraw and Hill.

Schnell R. (2009). Clinical Neuroanatomy. Lipinncott.

- Related academic journals:

Frontiers in Neuroanatomy
Anatomy & Physiology: Current Research
Neuroanatomy

COURSE OUTLINE

PHYSIOLOGY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_103**	**SEMESTER**	**1st**
COURSE TITLE	**PHYSIOLOGY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	3	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	General background
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Cardio-Respiratory Physiotherapy (4th)** • **Clinical Musculoskeletal Physiotherapy I (5th)** • **Clinical Musculoskeletal Physiotherapy II (6th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK ENGLISH
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

By the end of the course, students will have gained the skills and the ability to:

▪ delve into the principles of physiology of the human body, with particular emphasis on the physiological parameters of each system of the organization and the interaction between them.

▪ analyze the mechanism of interaction and co-operation - competition of a group of organs that serve a human function and constitute the concept of the system.

▪ delve into the physiology of systems which are relevant to the physiotherapist's specialty such as physiology of the musculoskeletal, circulatory and respiratory system.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

Others…

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Criticism and self-criticism
Working independently
Production of free, creative and inductive thinking
Showing social, professional and ethical responsibility and sensitivity to gender issues

3. SYLLABUS

The cell and its function. Structural components. Gene expression and protein synthesis. Circulation through cell membrane. Diffusion and active transfer. Skeletal muscles. Membrane dynamics and energy dynamics. Contraction of skeletal muscles. Neuromuscular transmission and smooth muscle function. Homeostasis. Thermoregulation. Fever, hyperthermia, hypothermia.

Circulatory system. Heart muscle. The heart as a pump. Heart cycle-contraction and dilation. Function of heart valves. Adjustment of cardiac function (law of Frank / Starling, autonomic nervous system). Special system of production and treatment of heart stimuli. Electrocardiogram. General examination of circulation. Medical physics of flow, blood pressure, resistance and vascular compliance. Arteries, veins and capillaries. Blood pressure maesurment. Artery palpation points. Heart valve auditory centres. Fluid exchange in capillaries. Creation of a lymph. Vasoconstrictor and vasodilator factors. Nervous regulation of circulation. Cardiac output and circulatory collapse. Muscle blood flow and regulation during exercise. Blood cells and blood types. Red blood cells, hemoglobin, hematocrit, platelets, blood serum.

Respiratory system. Pulmonary ventilation and pulmonary circulation. Lung volumes and capacities. Alveolar ventilation. Functions of the respiratory tract. Circulation of oxygen and carbon dioxide between the alveoli and tissue cells. Oxygen transfer to arterial blood. Nervous regulation of breathing and adjustment during exercise. Physiology of breathing in extreme conditions (altitude, flight, space, diving). Adjustment during exercise.

Immune system. Strong reference to the structure and function of the immune system. Non-specific and specific immunity, cellular and humoral immunity, antibodies. Leukocytes, leukocyte types. Cytokines. Acute and chronic inflammation.

Digestive system. Digestion and absorption in the gastrointestinal tract. Energy, rate of metabolism and temperature regulation of the body. Body composition. Dietary balances, regulation of food intake, obesity and vitamins.

Urinary and reproductive system. Strong reference to kidney physiology and acid-base balance. Broad reference to male and female reproductive system.

Introduction to Endocrinology. Hormones of the pituitary gland. Thyroid hormones. Adrenocorticotropin hormones. Insulin and diabetes mellitus. Parathyroid hormone and calcitonin. Erythropoietin.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face, Distance learning, scenario solution in suggested teaching scenarios (case studies)
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Power point presentations Electronic discussions via an asynchronous learning platform Video Multimedia Available digital lesson material to students through the e-

<table>
<tr><td></td><td>class platform</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>interactive teaching
Lectures, seminars,
Discussion</td><td>90</td></tr>
<tr><td>Practical placement in scenarios
Project, essay writing</td><td>30</td></tr>
<tr><td>Non-guided (independent) study</td><td>30</td></tr>
<tr><td>Course total</td><td>150</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other.</td><td>Assessment Language: Greek and English for Erasmus Students
For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student.

Assessment methods: Multiple Choice Test, Quick Response Questions, Development Questions, Problem Solving, Development Issues, Written Work (Potential Assessment Methods Selected by Teacher). Written examinations take place twice a year: at the end of the winter semester, and in September.</td></tr>
<tr><td>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td>The written examination consisted of 100% of the total grade of the student's assessment. At the discretion of the tutor, he / she may be given the option of assigning optional work during the course of the semester to be taken into account in the final grade.</td></tr>
</table>

5. ATTACHED BIBLIOGRAPHY

<u>*Recommended Foreign Language Bibliography:*</u>

1. Goldberg S. Clinical Physiology Made Ridiculously simple. Med Master (1995).

2. Scanlon V., Saunders T. Essentials of Anatomy and Physiology. FA Davis Company (2007).

3. Stanfield CL., Germann WJ. Principles of Human Physiology. Pearson International Edition (2008).

4. International Journal of Basic & Applied Physiology

5. American Journal of Physiology

6. Open Journal of Molecular and Integrative Physiology

COURSE OUTLINE

KINESIOLOGY OF THE TRUNK

1. GENERAL

SCHOOL	**SCHOOL OF HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_104**	**SEMESTER**	**1st**
COURSE TITLE	**KINESIOLOGY OF THE TRUNK**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	2	6
TUTORIALS	1	
LABORATORY EXERCICES	2	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Special background
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Patient Management (3rd)** • **Clinical Physiotherapeutic Assessment (4th)** • **Clinical Cardio-Respiratory Physiotherapy (4th)** • **Clinical Musculoskeletal Physiotherapy I (5th)** • **Clinical Paediatric Physiotherapy (6th)** • **Clinical Musculoskeletal Physiotherapy II (6th)** • **Adult Clinical Neurological Physiotherapy (7th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes

COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the completion of the course, students will be able to:

- comprehend how articular joints participate in human motion and they will gain the ability to analyse the planes and axes it takes place
- realise the loading that develops during various motions and they will gain the skills to describe and anlyse how these loads evolve as the body parts and levers change
- identify the muscular work that takes place during key movements
- describe the structure and kinematics of the spinal and pelvic joints and the muscles of the face
- recognise the natural movement patterns and identify the impact of abnormal motion

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

……

Others…

…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Adapting to new situations
- Decision-making
- Working independently
- Team work
- Production of free, creative and inductive thinking

3. SYLLABUS

The syllabus consists of the following units: Introduction to kinesiology and analysis of the fundamental principles of Mechanics and Motion referring to levers and moments, center of gravity and balance, momentum, work and energy, planes of motion. Description of the types of bones and articulations, of joint kinematics and degrees of freedom, open and closed kinetic chain and normal stance. Introduction to muscle function, types of muscle contractions, length-tension and force-velocity relationships, physiological and mechanical advantage. Additionally, within the context of the current module are the following: structure and function of the cervical, thoracic and lumbar spine, pelvis, thoracic cage and mechanics of ventilation, function of muscle of the face and temporomandibular joint. Students are exposed to practical examples of applied normal and simple movements, and everyday activities. Upright stance is also analyzed and variables that affect it are modified and tested (center of gravity, base of support, line of gravity etc). Part of the practical sessions involves applications of kinematic analysis of eccentric and concentric muscle activities, in various planes and axes of motion, analysis of range of motion and degrees of freedom.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	▪ Power point presentations ▪ Use of artificial cross-sections ▪ Video analysis
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.*	

Activity	***Semester Workload (ECTS)***
Theoretical part (Lectures & tutorials):	**130**
Lectures	60
Tutorials	20
Non-directed study	50
Practical part (Laboratory):	**40**
Laboratory practice	20

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS	Case studies	20
	Total (25-30 hours per ECTS unit)	**170**
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Assessment methods: **Theoretical part:** Multiple choice, short-answer questions, practical examples analysis, essays (potential assessment methods decided by the examiner) **Practical part:** Oral examination on examples of applied motions	

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

1. Journal of Human Kinetics Applied Kinesiology, Revised Edition: A Training Manual and Reference Book of Basic Principles and Practices, Robert Frost Ph.D. (Author), G.J. Goodheart Jr. D.C. North Atlantic Books, Berkeley, California 2013
2. Applied Kinesiology, Revised Edition: A Training Manual and Reference, R. Frost, North Atlantic Books, Berkeley, California 2013

- Related academic journals:

1. *Journal of Human Kinetics*
2. *International Journal of Fundamental and Applied Kinesiology*
3. *Journal of Electromyography and Kinesiology*
4. *Clinical Kinesiology*

COURSE OUTLINE

PRINCIPLES OF BIOPHYSICS - ELECTROPHYSIOLOGY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_105**	**SEMESTER**	**1st**
COURSE TITLE	**PRINCIPLES OF BIOPHYSICS - ELECTROPHYSIOLOGY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	3	**4**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Scientific Area General Infrastructure Course
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes
The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will

acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

The main purpose of the course is the in-depth understanding of the application of basic electrotherapy techniques to diseases of the musculoskeletal system and the principles of biophysics and electrophysiology of the human body. Particular emphasis is given to study (a) physical means and (b) methods of restoring muscular and nervous function by electrotherapy

After the end of the course the students will gain the ability and the skills to:
-Implement the basic principles of Biophysics in the field of Electrotherapy.
-Understand and apply the basic principles of Electricity and Electrophysiology.
-Deepen on the rationale for decision-making of the appropriate electrotherapeutic approach based on the latest scientific data.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*Others…*
Production of new research ideas	*…….*

Search, analyze and synthesize data and information, using the necessary technologies
Adapt to new situations
Decision making
Exercise of criticism and self-criticism
Promote free, creative and inductive thinking

3. SYLLABUS

1. Introduction to Biophysics (transfer of forms of energy to the human body)
2. Elements of electrophysics, with an emphasis on the polarity of the current, the pulse, the frequency and all the current parameterization possibilities provided by modern electrotherapy devices,
3. Principles of Electrophysiology (Electromyography, Potential Dynamics, Electrostimulation)
4. Elements of physiology, for nervous and muscular tissue, for hyperaemia, for inflammation, for edema, for healing of tissues,
Continuous currents (galvanic, diodynamic), their analgesic and anti-inflammatory action, electrotonic phenomena,
6. Alternating currents (low, medium, high frequency)
7. Electrophysiological evaluation of muscle rib using the electrodialysis-
8. Principles of Ultrasound - Diagnosis - Treatment

9. Electrotherapy systems 10. Principles of UV irradiation and Infrared radiation 11. Physical Radiation Principles (Short and Microwave Diathermy) 12. Natural Laser Radiation Principles Physical principles of magnetic fields 14. Patient safety and hygiene 15. Safety and hygiene in the field of Physiotherapy units

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>- Power point presentations
-Electronic discussions via an asynchronous learning platform
- Video
- Multimedia</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td><table><tr><th>Activity</th><th>Semester workload</th></tr><tr><td>Lectures, Interactive teaching</td><td>60</td></tr><tr><td>Implement projects by groups</td><td>60</td></tr><tr><td>Course total</td><td>120</td></tr></table></td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</td><td>Assessment Language, Greek and English for Erasmus students
Assessment methods:
Written exam with multiple choice questions,
short answer questions
and development questions.
Written examinations take place twice a year at the end of the spring semester and in September
The written exam is 100% of the total grade of the student's assessment.
At the discretion of the teacher, it may be possible to</td></tr>
</table>

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.	assign optional work during the course of the semester to be taken into account in the final score. The written exam is 100% of the total grade of the student's assessment. At the discretion of the teacher, it may be possible to assign optional work during the course of the semester to be taken into account in the final score.

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

(*Greek)*

1. Jokaris P. (2007). Clinical Electrotherapy (2 volumes). Medical editions of Litsas, Athens.
2. Fragoroptis E. (2002). Applied Electrotherapy. Salto, Thessaloniki.
3. Kumar Nanda Basanta (2018). Electrotherapy: Basic Principles. Broken Hill Publishers Ltd. Nicosia

(English)

1. Aminoff M.J. (2005). Electrodiagnosis in Clinical Neurology. 5th ed. Churchill Livingstone.
2. Blum, A. S., Rutkove S.B. (2007). The Clinical Neurophysiology Primer CD-ROM. Springer, Heidelberg.
3. Glaser R. (2004). Biophysics: An Introduction. Springer, Heidelberg.
4. Haken H. (2008). Brain Dynamics: An Introduction to Models and Simulations. 2nd ed. Springer, Heidelberg.
5. Robinson A.J., Snyder-Mackler L. (2007). Clinical Electrophysiology: Electrotherapy and Electrophysiological Testing. 3rd ed. Lippincott Williams & Wilkins.
6. Zimetbaum P.J., Josephson M.E. (2008). Practical Clinical Electrophysiology. 1st ed. Lippincott Williams & amp; Wilkins, Philadelphia.

COURSE OUTLINE

ENGLISH TERMINOLOGY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_106**	**SEMESTER**	**1st**
COURSE TITLE	**ENGLISH TERMINOLOGY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	3	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	General background
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	English & Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of the course, students will gain the specific knowledge and the skills required to prepare any work during their studies and especially their degree by incorporating the English-language bibliography. Subsequently, as modern health scientists, they will be able to keep track of modern developments through databases and current foreign bibliography.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

Others…

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment

3. SYLLABUS

During the course, students will learn the English-speaking terminology related to anatomy, physiology, pathology and traumatology. On a more specific basis they will be taught the terminology of kinesiological-biomechanics, kinesiotherapy terms, as well as any other specialized attribution of terms which describe physio-therapeutics means and methods such as chiropractic, electrotherapy etc

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Use of ICT in teaching Power point presentations Available digital lesson material to students through the e-

<table>
<tr><td></td><td>class platform</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures, seminars, essay writing, study and analysis of bibliography</td><td>The individual breakdown of the workload by activity is determined by the responsible teacher.</td></tr>
<tr><td>Course total</td><td>100</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td>Assessment Methods: Multiple Choice Test, Quick Response Questions, Problem Solving, Development Issues, Written Work (Potential Assessment Methods Selected by Teacher).
Written examinations take place twice a year: at the end of the winter semester, and in September.
Assessment Language: English and Greek (English for Erasmus Students)

The written examination consisted of 100% of the total grade of the student's assessment. At the discretion of the tutor, he / she may be given the option of assigning optional work during the course of the semester to be taken into account in the final grade.</td></tr>
</table>

5. ATTACHED BIBLIOGRAPHY

Suggested bibliography:

Dorland’s pocket medical dictionary. Philadelphia, WB. Saunders Co. 1989

COURSE OUTLINES

2nd SEMESTER

COURSE OUTLINE

PATHOPHYSIOLOGY AND BASIC PRINCIPLES OF PATHOLOGY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_201**	**SEMESTER**	**2nd**
COURSE TITLE	**PATHOPHYSIOLOGY AND BASIC PRINCIPLES OF INTERNAL MEDICINE**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**ECTS CREDITS**
LECTURES	3	**6**
TUTORIALS	1	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Special background Specialised knowledge,
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Cardio-Respiratory Physiotherapy (4th)** • **Clinical Musculoskeletal Physiotherapy I (5th)** • **Clinical Musculoskeletal Physiotherapy II (6th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek, English (optional)
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

By the end of the course the students:

- will have gained the knowledge to appreciate the normal from the abnormal functioning of the human body systems.
- will be aware of the diseases red flags and syndromes considered to be representative of the pathophysiology of an entire system.
- -will present competency in gathering the history, clinical symptomatology, and objective findings to reliably evaluate the patient.
- -will have gained the skills to evaluate the symptoms and clinical picture of the disease
- and they will be able to assess the severity of the disease and the possible need for a review by the treating physician or the need to refer to another medical specialty.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Project planning and management

Adapting to new situations –
Search, analyse and present data and information,
Decision making
Criticism and self-criticism

3. SYLLABUS

- Pathophysiology of the Respiratory System, Kidney Urinary, Digestive and Endocrine System.

- Introduction to internak medicine. Basic discrimination of disease, systemic disease and syndrome. The concepts of diagnosis and differential diagnosis.

- The distinction between clinical symptom and objective finding.

- Principles of medical history / physical examination.
- Characteristics of patients with acute disease.
- Characteristics of patients with chronic disease.
- Characteristics of the pediatric patient.
- Features of female - patient.
- Health system.

- Preventative Medicine.
- Principles of transfusion and transplantation.
- Red flags

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Lectures, tutorials, seminars Work face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint presentations) in teaching. The lectures content of the course for each chapter are uploaded on the internet (e-class platform), in the form of a series of ppt files, where from the students can freely download them using a password which is provided to them at the beginning of the course.
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	***Activity*** / ***Semester workload*** **Lectures** **Case studies** **Projects** — 70 **TUTORIALS** — 50 Private study — 50 Course total — ***170***
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation*	**Lectures** Written examination at the end of the semester (multiple choice questions, true-false, short answers, clinical problem solving) – Minimum passing grade: 5.

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

GREEK

1.Μουντοκαλάκης Θ.Δ. (1999). Διαφορική Διάγνωση. Επιστημονικές εκδόσεις Παρισιάνου, Αθήνα.

2.Παπαδημητρίου Μ. (2003). Διαφορική διαγνωστική. Univesity Studio Press.

3.Σιών Μ. (2004). Συμπτώματα και σημεία κατά την κλινική εξέταση. Univesity Studio Press.

4.Τσουρουτσόγλου Γ. (1993). Η Επισκόπηση ως φυσική εξεταστική Μέθοδος. Univesity Studio Press.

5.Andreoli T. E.,Carpenter C., Griggs R.C., Loscalzo J. Cecil Βασική Παθολογία (2 Τόμοι). (Μετάφραση Αγγλικής Έκδοσης)Ιατρικές Εκδόσεις Λίτσας 2003.

6.Kumar P., Clark M. Παθολογία (2 Τόμοι). (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Λίτσας 2007.

7.Παθολογική φυσιολογία, Καραγιάννης, Αστέριος / Δανιηλίδης, Μιχαήλ, Εκδόσεις: University Studio Press Οκτώβριος 2014

8.Παθοφυσιολογία στην κλινική πράξη, Griffin, Frank, Επιμέλεια, Καλαϊτζή, Χρύσα Ιατρικές Εκδόσεις Π. Χ. Πασχαλίδης 2005

English

1.Andreoli T.E., Carpenter C., Griggs R.C, Benjamin I. (2007 Andreoli and Carpenter's Cecil Essentials of Medicine. 7th ed. Saunders, Philadelphia.

2.Fauci A., Braunwald E., Kasper D., Hauser S. (2008). Harrison's Principles of Internal Medicine. Mc Graw and Hill.

3.Ghosh A. (2008). Mayo Clinic Internal Medicine Review. Mayo Clinic Scientific Press.

4.Goldlist B.J. (2002). Appleton & Lange's review of internal medicine. McGraw-Hill.

5.Goroll A., Mulley J.R., Albert G. (2009). Primary Care Medicine. Office Evaluation and Management of tha adult patient. Lippincott Williams & Wilkins.

6.Jamison J.R. (2006). Differential Diagnosis for Primary Care

COURSE OUTLINE

PHARMACOLOGY FOR PHYSIOTHERAPISTS

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_202**	**SEMESTER**	**2nd**
COURSE TITLE	**BASIC PHARMACOLOGY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**ECTS CREDITS**
LECTURES	3	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised knowledge, Skills development
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek, English (optional)
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

By the end of this course the student will

- Have gained the knowledge on specific actions of drugs in various systems (cardiovascular,

respiratory, renal and endocrine) as well as microorganisms (parasites, microbes, viruses).
- Be able to correlate the pharmacology with possible physiotherapy actions in the above systems
- Have gained the specific knowledge to analyze the mechanisms of action, side effects and interactions of drugs
- Have the competency in recognizing the-possible interaction with physiotherapeutic agents
- Gain the knowledge of the general - adverse drug reactions
- Be able to recognize new therapeutic approaches, biological / gene therapy

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*

Search, analyse and present data and information,
Decision making
Criticism and self-criticism
Adapting to new situations

3. SYLLABUS

Pharmacokinetics.
Pharmacodynamics.
Principles of Toxicology
Anticoagulants
Angiotensive Agents - Antiarrhythmic Drugs -
Electrolytes - Diuretics
Antibodies - Antithrombotic - Thrombolytics
General principles of chemotherapy
Antibiotic drugs
Anti-inflammatory
Antineoplasmatic
Immunosuppressants
Anabolic
Thyroid hormones-Antithyroid-Parathyroid hormone
Insulin-Antidiabetics.
Biological Gene Therapy, Immunotherapy, Vaccines
Correlation with possible physiotherapy actions

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Lectures, tutorials, seminars

work face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Use of Information and Communication Technologies (ICTs) (e.g. powerpoint presentations) in teaching. The lectures content of the course for each chapter are uploaded on the internet (e-class platform), in the form of a series of ppt files, where from the students can freely download them using a password which is provided to them at the beginning of the course.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures</td><td>45</td></tr>
<tr><td>Case studies</td><td>15</td></tr>
<tr><td>Projects</td><td>40</td></tr>
<tr><td>Private study</td><td>20</td></tr>
<tr><td>Course total</td><td>120</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td>Lectures

Written examination at the end of the semester (multiple choice questions, true-false, short answers, clinical problem solving) –

Minimum passing grade: 5.</td></tr>
</table>

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

Basic Pharmacology, 3rd Edition, R W Foster, Butterworth-Heinemann, 2011
Φαρμακολογία Goodman and Gilman's: The Pharmacological Basis of Therapeutics, 2015
Φαρμακολογία: Harveyand Champe, 2008
Φαρμακολογία Katzung: Basic and Clinical Pharmacology, 2013

JOURNALS

Nature Reviews Drug Discovery
Trends in Pharmacological Sciences
Pharmacology and Therapeutics

COURSE OUTLINE

NEUROPHYSIOLOGY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_203**	**SEMESTER**	**2nd**
COURSE TITLE	**NEUROPHYSIOLOGY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	3	**4**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	General Background / Mandatory module
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes
The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.
Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this module the students will:

- be able to understand and distinguish the basic principles of neurophysiology.
- Have gained the skills to deepen into the basic concepts of neurophysiology such as the neuronal cell (neuron) and the functions it performs, the synapse and the neuromuscular junction, the myotactic reflex the cerebral cortex and its cognitive functions, the pyramidal and extrapyramidal system.
- Have the knowledge to understand the contribution of the motor and the somatosensory areas of the brain in the organization of both the kinetic model and the motor plan.
- Have the skills to identify the clinical signs caused by a specific damage of the nervous system and based on the neurophysiological mechanism to understand the accompanied motor / sensory deficits
- Have gained the knowledge to understand the pathophysiology of pain and the neural circuits involved in it.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Team work
- Working in an international and an interdisciplinary environment
- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

Students will be introduced into the neurophysiology studying the basic neural cell (neuron), the

synapse, the electrical phenomena of excitation of the neuron with reference to the resting and active potential, the presynaptic inhibition, the summation in time of nerve impulses, fatigue of synaptic transmission, and effect of drugs on transmission. The hierarchy in motor control and motor plan with a particular emphasis on the distinction of three levels of functioning of the nervous system (spinal, lower brain and cortical cerebral level) will be thoroughly taught. The role of the somatosensory system in the motor control will be also covered. An in-depth study will be made of the system of transfer of proprioceptive impulses from the periphery to the CNS, the study of pain sensation and pathophysiology of pain, by analyzing pain receptors, transmitting signals to the CNS, stroke and spinal system of pain and exaggerating analgesia. Reference will be made to the distinction between physical and visceral pain and thermal stimuli. The spinal circuits for the motor control will also be studied in details with emphasis to the myotactic reflex, the tendon reflexes, the spinal reflexes, the proprioceptive receptors. The role of the motor cortex, the pyramidal track, the brain stem, the basal ganglia and the cerebellum in controlling motor function will also be covered. Finally, the brain activation systems (limbic system) and its role in alert and sleep will also be discussed. General presentation of the autonomic nervous system and key features of sympathetic and parasympathetic function will be presented.

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Powerpoint presentations, e-discussions via the e-class educational platform, videos etc.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Theoretical part (lectures)</td><td>120</td></tr>
<tr><td>Lectures interactive teaching, project work</td><td>70</td></tr>
<tr><td>Independent -non-directed (personal) study</td><td>30</td></tr>
<tr><td>seminars, clinical presentations</td><td>20</td></tr>
<tr><td>Course total</td><td>120</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation,</td><td>Evaluation methods: Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving exercise, written assignments. The assessment will take place at the end of each semester with written exams.

For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will be provided by the tutor and agreed by the student.</td></tr>
</table>

other *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	**Language of evaluation:** Greek & English (for Erasmus students)

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography (Greek):

1. Daroff R., Jankovic J., Mazziotta JC., Pomeroy, SL., Αλμπάνη Μ. (2017). Κλινική Νευροφυσιολογία. University Studio Press, Θεσ/νίκη.
2. Shumway-Cook & Woollacot (2011). Κινητικός έλεγχος από την έρευνα στη κλινική πράξη, Broken Hill, Αθήνα
3. Guyton A.J., Hall J.E. (2004). Φυσιολογία του ανθρώπου. (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές εκδόσεις Παρισιάνου, Αθήνα.
4. Candel, Schwartz, Jessel (2016) Βασικές Αρχές Νευροεπιστημών, Πασχαλίδης, ΑΘΗΝΑ
5. Barker, R. & Barasi S. (2015) Νευροεπιστήμες με μια ματιά, Επιστημονικές Εκδόσεις Παρισιάνου, Αθήνα
6. Kandel RE, Schwartz HJ, Jessel MT (2011) Νευροεπιστήμη και Συμπεριφορά, Επιστημονικές Εκδόσεις Κρήτη
7. Kolb B., and Whishaw IQ. (2009), Εγκέφαλος και Συμπεριφορά, Broken Hills, Κύπρος

- Suggested bibliography (English):

1. Siegel A & Sapru H (2015) Essential Neuroscience 3rd ed. Lippincott Williams & Wilk Wilkins, Philadelphia.
2. Bear MF., Connors BW., Paradiso MA. (2016) Neuroscience, Exploring the Brain, 4th ed., Wolters Kluwer, China
3. Simpkins CA (2013) Neuroscience for Clinicians, Springer, New York
4. Waxman SG (2016) Clinical Neuroanatomy 28th ed. McGraw Hill Education
5. Carpenter R & Reddi B (2012) Neurophysiology, a conceptual approach 5th ed., Hodder Arnold. UK
6. Snell RS (2010), Clinical Neuroanatomy 7th ed., Lippincott Williams & Wilkins, Philadelphia.
7. Daube J.R. (2002). Clinical Neurophysiology. 2nd ed. Oxford University Press, Oxford.
8. Kandel E.R, Schwartz J.H., Jessell T.M. (2013). Principles of Neural Science. 5th ed. Mc Graw and Hill.
9. Latash M.L. (2008). Neurophysiological Basis of Movement. 2nd ed. Human Kinetics, Illinois.

- Related academic journals:

1. Journal of Clinical Neurophysiology
2. Brain Research
3. The journal of Neuroscience
4. Neuroscience & Biobehavioral Reviews
5. Nature Reviews Neuroscience
6. Brain and Behavior

COURSE OUTLINE

KINESIOLOGY OF THE EXTREMITIES

1. GENERAL

SCHOOL	**SCHOOL OF HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_204**	**SEMESTER**	**2nd**
COURSE TITLE	**KINESIOLOGY OF THE EXTREMITIES**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	2	7
TUTORIALS	1	
LABORATORY EXERCICES	2	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Special background
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Patient Management (3rd)** • **Clinical Physiotherapeutic Assessment (4th)** • **Clinical Cardio-Respiratory Physiotherapy (4th)** • **Clinical Musculoskeletal Physiotherapy I (5th)** • **Clinical Paediatric Physiotherapy (6th)** • **Clinical Musculoskeletal Physiotherapy II (6th)** • **Adult Clinical Neurological Physiotherapy (7th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the completion of the course, students will:

- be able to describe the structure and kinematics at the joints of the upper and lower extremity
- gain the knowledge to describe the architectural complexity and function of a) the ankle and foot during loading and b) of the wrist and hand during fine motions of the hand and various grips
- to be able to analyse the kinematic patterns and describe the activity of protagonist, antagonist, accessory and stabilising muscles
- gain the skills to analyse the different phases of normal gait and the corresponding muscles, as well the type of contraction in each phase
- be able to recognise important deviations from normal motion

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*Others…*
Production of new research ideas	*…….*

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Adapting to new situations
- Decision-making
- Working independently
- Team work
- Production of free, creative and inductive thinking

3. SYLLABUS

The syllabus consists of analysis of the kinesiology of upper limb joints (scapulothoracic, glenoid, elbow, wrist and fingers) and the lower limb (hip, knee, ankle and foot). Additionally, muscle actions of the involved muscles are analysed and the motions they produce within the context of the structural limitations of the joints and the control imposed by the capsuloligamentous

structures. Part of the practical sessions involves applications of kinematic analysis of eccentric and concentric muscle activities, in throwing, grasping, climbing, walking, running and other functional activities.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	▪ Power point presentations ▪ Use of artificial cross-sections ▪ Video analysis
TEACHING METHODS *The manner and methods of teaching are described in detail.Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	

Activity	*Semester Workload (ECTS)*
Theoretical part (Lectures & tutorials):	**130**
Lectures	60
Tutorials	20
Non-directed study	50
Practical part (Laboratory):	**50**
Laboratory practice	20
Case studies	20
Total (25-30 hours per ECTS unit)	**180**

STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Assessment methods: **Theoretical part:** Multiple choice, short-answer questions, practical examples analysis, essays (potential assessment methods decided by the examiner) **Practical part:** Oral examination on examples of applied motions

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

1. Journal of Human Kinetics Applied Kinesiology, Revised Edition: A Training Manual and Reference Book of Basic Principles and Practices, Robert Frost Ph.D. (Author), G.J. Goodheart Jr. D.C. North Atlantic Books, Berkeley, California 2013

2. Applied Kinesiology, Revised Edition: A Training Manual & Reference, R. Frost, North Atlantic Books, Berkeley, California 2013

- Related academic journals:

1. Journal of Human Kinetics
2. International Journal of Fundamental and Applied Kinesiology
3. Journal of Electromyography and Kinesiology 4. Clinical Kinesiology

COURSE OUTLINE

SOFT-TISSUE TECHNIQUES IN PHYSIOTHERAPY

1. GENERAL

SCHOOL	**SCHOOL OF HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_205**	**SEMESTER**	**2nd**
COURSE TITLE	**SOFT-TISSUE TECHNIQUES IN PHYSIOTHERAPY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	2	5
LABORATORY EXERSISE	2	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	**Specialized module-Skills development**
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Practice in Physiotherapy (8th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	**GREEK & ENGLISH**
IS THE COURSE OFFERED TO ERASMUS STUDENTS	**YES**
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes
The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the end of the module the students will:

• have the specific knowledge about the types and tissue healing of human body soft tissues

• have the ability to understand and interpret the physiological and pathological function of the soft tissues (skin, muscles, tendons, ligaments, fascia systems, etc.) and in particular the fascial systems of the human body

• gain the skills to describe the loads distributed to the human body in the performance of the various daily activities and to interpret their contribution to the development of pathological adaptations to the soft tissues of the human body.

• be able to design and perform reliable assessment techniques for soft tissue pathologies as well as reasonably based and evidence-based clinical rehabilitation programmes.

• have the knowledge to understand the effectiveness and evidence-contraindications of classical massage techniques and apply them on a case-by-case basis.

• be able to understand the usefulness and evidence-based contraindications of lymphatic massage techniques and transverse massage techniques and have the skills to apply them on a case-by-case basis.

• have gained the ability to understand the value and indications - contraindications of advanced methods of aggressive and accelerated soft tissue massage as well as evidence-based sports massage techniques

• have the knowledge to analyze the usefulness and contraindications of advanced instrumment-assisted mobilization techniques as well as evidence-based soft tissue techniques using ERGON IASTMTechnique, Kinetic Flossing, IASTM, Foam Roller, Cupping therapy and apply them on a case-by-case basis pathology.

• be able to analyze the pathophysiology of myofascial trigger points and apply sophisticated and documented rehabilitation techniques.

• have gained the skills to design a soft- tissue physiotherapy programme that is safe and appropriate for any injury and clinical event and is consistent with recent research data.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*

Production of new research ideas	*Others…*

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Project planning and management
Production of free, creative and inductive thinking

3. SYLLABUS

The curriculum of the theoretical part of the course focuses on a) the analysis of the soft tissues of the human body and b) the learning of the basic principles (Techniques and modes of application, advantages-disadvantages, indications-contraindications) of the various soft-tissue techniques.

In particular, the theoretical part of the module covers the following modules:

• Introduction to the theory of soft tissue techniques in Physiotherapy, anatomy, and physiology of soft tissues (Muscles, tendons, ligaments, fascia systems).

• Pathophysiology - aetiopathogenesis and pathological manifestations (stiffnesses - myofascial trigger points) - Healing of soft tissues

• Classical massage techniques

• Aggressive soft tissues massage (stripping massage, massage combined with movement)

• Transverse friction massage: Cyriax Theory, research background, applications in pathologies, (evidence-based treatments)

• Lymphatic massage: Analysis of the lymphatic system, pathologies, research background, applications in pathologies, documented techniques of evidence-based treatments,

• Myofascial trigger points: Theoretical background, etiopathology, clinical adjustments, evaluation and treatment techniques

• Fascial manipulation

• Mobilization of soft molecules using special equipment (ERGON Technique): Basic principles, equipment, techniques, indications-contraindications, treatment protocols. documented applications in evidence-based treatments

• Cupping therapy: Basic principles, equipment, techniques, indications-contraindications, treatment protocols. documented applications in evidence-based treatments
• Foam Roller: Basic principles, equipment, techniques, indications-contraindications, treatment protocols. documented applications in evidence-based treatments
• Muscle energy techniques
• Active / passive release of soft tissues - Active release techniques

In the laboratory part of the module, students are trained in the practical application of techniques and methods of assessment of the human body's soft tissue pathologies as well as in the laboratory application of documented rehabilitation techniques such as:

- Classical massage
- Aggressive-Athletic massage
- Lymphatic massage
- Cross Friction massage
- Soft-tissue mobilization/manipulation techniques (Fascial manipulation)
- Methods for the treatment of painful myofascial trigger points pain-inducing pain points (ischemic pressure)
- ERGON Instrument-assisted soft tissue mobilization technique
- Cupping therapy
- Kinetic flossing techniques
- Muscle energy techniques
- Active/passive release of Soft-tissues - Active release techniques

Students are also engaged in the development of c clinical reasoning, the ability to recognize pathological adaptations in the soft parts of the human body, and the ability to differentiate about organic or systemic diseases.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to Face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Power point presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc, practical training applications.
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	See nested table below
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure*	Assessment methods Theoretical part: Multiple Choice evaluation questions, Short Response Questions, Analysis-Presentation of Clinical Events -

Activity	***Semester workload***
Theoretical part (lectures)	**90**
Lectures, seminars, study and analysis of bibliography, tutorials, interactive teaching, educational visits.	60
Independent (personal) study Project, essay writing	60
Practical parts (Laboratory & Clinical)	60
Laboratory exercises, practical applications in small groups.	
Course total	**150**

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Practical Problems, Written Work (potential assessment methods selected by the instructor). Assessment Language: Greek and English for Erasmus students Practical-clinical Part: Oral/practical examination in each laboratory-clinical exercise, tested on models and healthy volunteers or patients. Student performance and evaluation for the practical (laboratory & clinical) part of the module will take place throughout the whole semester (weekly during the practicals), as well as within set times at the end of the semester and maybe in the middle of it. Final Grade: The final score incorporates the assessment into each individual teaching activity (eg lectures-essays) and is only given if the students are successfully examined in each activity

5. ATTACHED BIBLIOGRAPHY

In Greek

1. Σακελλάρη Β- Γώγου Β (2004). Τεχνικές θεραπευτικές μάλαξης, Εκδ. Παρισιάνου.
2. Χριστάρα – Παπαδοπούλου Α (2004). Τεχνικές θεραπευτικές μάλαξης, Εκδ. ΤΕΙ Θεσ/κης.
3. Σφετσιώρη Δ.Κ (2003). Θεραπευτική μάλαξη, DKS.
4. MyersT (2018). Ανατομικές Αλυσίδες. Μυοπεριτονιακοί Μεσημβρινοί για χειροθεραπευτές. Εκδ. Συμμετρία.
5. Καραμανής Δημήτρης (2007). Το ελληνικό αθλητικό μασάζ, Εκδόσεις Ισόρροπον.
6.Κωνσταντίνος Φουσέκης, Βασιλική Σακελλάρη (2015).Τεχνικές Μαλακών Μορίων. Στο ¨Εφαρμοσμένη Αθλητική μάλαξη¨ του Κωνσταντίνου Φουσέκη, BrokenHillPublishers

In English

7.Fousekis, K., Eid, K., Tafa, E., Gkrilias, P., Mylonas, K., Angelopoulos, P., Koumoundourou, D., Billis, V. and Tsepis, E., 2019. Can the application of the Ergon® IASTM treatment on remote parts of the superficial back myofascial line be equally effective with the local application for the improvement of the hamstrings' flexibility? A randomized control study. *Journal of Physical Therapy Science*, *31*(7), pp.508-511.
8. Fousekis, K., &MylonasK, CV. (2014). Aggressive Massage Techniques can Accelerate Safe Return after Hamstrings Strain: A Case Study of a Professional Soccer Player. *J Sports Med Doping Stud*, *4*(144), 2161-0673.
9.Hammer, W. I. (Ed.). (2007). *Functional soft-tissue examination and treatment by manual methods*. Jones & Bartlett Learning.
10.Howitt, S., Wong, J., &Zabukovec, S. (2006). The conservative treatment of trigger thumb using graston techniques and active release Techniques®. *The Journal of the Canadian Chiropractic Association*, *50*(4), 249.
11.Simmonds, N., Miller, P., &Gemmell, H. (2012). A theoretical framework for the role of fascia in manual therapy. *Journal of bodywork and movement therapies*, *16*(1), 83-93.
12.Travell& Simons' Myofascial Pain and Dysfunction: The Trigger Point Manual (2-Volume Set)
13.Leahy, P. M. (1996). *Active release techniques: soft-tissue management system for the upper extremity*. Active Release Techniques, LLP.13. Chaitow, L. (Ed.). (2006). *Muscle energy techniques*. Elsevier Health Sciences.

Related Academic Journals:

4. *1. JBR Journal of Clinical Diagnosis and Research*
5. *2. Journal of Orthopaedic& Sports Physical Therapy*
6. *3. Musculoskeletal Science & Practice*
7. *4. BMC Musculoskeletal Disorders*
8. *5. Physiotherapy*
9. *6. Journal of Manual & Manipulative Therapy*.

COURSE OUTLINES

3nd SEMESTER

COURSE OUTLINE

GENERAL SURGERY - ORTHOPAEDICS

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_301**	**SEMESTER**	**3rd**
COURSE TITLE	**GENERAL SURGERY - ORTHOPAEDICS**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**ECTS CREDITS**
LECTURES	3	**6**
TUTORIALS	1	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Special background Specialised knowledge, Skills development
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek, English (optional)
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the end of the course the students will:

- have gained the skill to recognize the surgical patient from taking the history
- be able to understand that approaching and treating a surgical patient is not just the surgical technique applied to its disease but its systematic approach to preoperative surgery and its contribution to its immediate recovery postoperatively.
- be familiar with the particularities of surgical procedures in various anatomical regions and tissues as well as different techniques.
- be familiar with major surgical problems such as polytrauma and burns and be able to express a scientifically valid view of the therapeutic surgical approach and recovery.
- have the knowledge of the most important orthopedic injuries and diseases per anatomical area, including clinical picture, symptomatology, and modern methods of treatment.
- be able to distinguish the clinical differences between fractures, extravasations, ligament lesions, peripheral nerve injuries and tendons, and suggest treatment on a case-by-case basis.
- present the competency in understanding the modern orthopedic surgery, gaining knowledge of the possible complications of each interventional therapy, and deepening their knowledge of patient rehabilitation during the postoperative phase**.**

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Project planning and management

Adapting to new situations –

Search, analyse and present data and information,

Decision making

Criticism and self-criticism

3. SYLLABUS

The curriculum of the course includes a (smaller) general and a (larger) special part.

The general part includes :

-the basic knowledge regarding: surgical illness approach: This section will describe how to get a history from the surgical patient, the most common symptoms present and the points to be made more prominent, the objective examination and finally the laboratory and radiological control needed on a case-by-case basis.

Preoperative assessment of the surgical patient: The objective is the preoperative assessment of the surgical and anesthesiological risk by system, with emphasis on the respiratory, circulatory, central nervous and musculoskeletal system. Particular reference to obesity and medication as a risk factor.

Principles of Surgery: Basics for understanding the technique of surgical procedures in anatomical regions

Key differences in open surgery and laparoscopic surgery:

Pros and cons, prospects, postoperative morbidity

bone composition, description and types of joints, bone metabolism as well as bone healing

- fracture classification, stages and common complications, classification of soft tissue lesions (eg sprains, tendons, etc.), classification dismantling & sub-subsidiaries. In addition to the general part, a detailed presentation of the means and methods of assessment (eg clinical examination, diagnostic tests, etc.) and conservative (eg epidemiology, gypsum / narthex etc.) and surgical treatment arthroscopy, intramedullary nailing, dilated osteogenesis, etc.) of orthopedic events.

The special part is divided into 2 strands, in general abdominal surgery and orthopedic surgery

Postoperative analgesia: Postoperative analgesia is essential for both the rapid mobilization of the patient and the respiratory physiotherapy, especially in chronic respiratory disease groups. The causes of postoperative analgesia failure, the effects of pain and the effects of its treatment, the factors and forms of postoperative analgesia will be developed. Physiology and pathology of healing: Mechanism of healing, factors that affect healing, scar pathology and closure of suture trauma. Shock: - the definition and types of shock, the signs of circulatory insufficiency, the diagnosis of the shock, and the general therapeutic measures to be taken in such a patient. Inflammation and Surgical Infections: Analysis of acute inflammation and its progression by focusing on surgical infection. Definition, classification, causes

Multiorganic Deficiency Syndrome: Definition, organ dysfunction, frequency, development theories, prognosis, prevention and therapeutic strategy.

Principles of surgical oncology: Cancer aetiology, tumor growth and metastasis, staging, principles of neoplasm treatment and the role of surgery

elbows, brachial bone fractures, forearm bones, fractures and wrist dislocations / (e.g., pelvic ring & acetabular fractures, hip, patellar & knee fractures & knee fractures, femoral fractures, etc.)

Spine fractures, soft tissue lesions (e.g., knee, ankle), follicular lesions (e.g., hemangioma), muscular sprains, tendon sections - - peripheral nerve injuries and other accompanying lesions / injuries. In the second part of the special section (orthopedic diseases) -autoimmune diseases (eg rheumatoid arthritis, ankylosing spondyloarthritis, juvenile arthritis and .a.), degenerative diseases (e.g., degenerative arthropathy, intervertebral disc herniation, back pain

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Lectures, tutorials, seminars

Work face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Use of Information and Communication Technologies (ICTs) (e.g. powerpoint presentations) in teaching. The lectures content of the course for each chapter are uploaded on the internet (e-class platform), in the form of a series of ppt files, where from the students can freely download them using a password which is provided to them at the beginning of the course.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures
Case studies
Projects</td><td>70</td></tr>
<tr><td>TUTORIALS</td><td>50</td></tr>
<tr><td>Private study</td><td>50</td></tr>
<tr><td>Course total</td><td>170</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation</td><td>Lectures

Written examination at the end of the semester (multiple choice questions, true-false, short answers, clinical problem solving) –

Minimum passing grade: 5.</td></tr>
</table>

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

GREEK

*1.*Λαμπίρης Η.Ε. (2003). Ορθοπαιδική και Τραυματιολογία. Ιατρικές Εκδόσεις Π. Χ. Πασχαλίδη, Αθήνα.

2.Συμεωνίδης Π. (1996). Ορθοπαιδική. Κακώσεις και παθήσεις του μυοσκελετικού συστήματος. University Studio Press.

3.Παπαβασιλείου Β. (2003). Ορθοπαιδική. Συγγενείς ανωμαλίες, παθήσεις και κακώσεις του μυοσκελετικού συστήματος. University Studio Press.

4.Παπαχρήστου Γ.Κ. (2006). Εισαγωγή στην ορθοπαιδική και τραυματολογία. Ιατρικές Εκδόσεις Π. Χ. Πασχαλίδη, Αθήνα.

5.Κοντάκης Γ.Μ., Χατζηπαύλου Α.Γ. (2006). Ορθοπαιδική Τραυματιολογία - Παθήσεις των οστών και των αρθρώσεων των άκρων. Εκδόσεις Ιατρικές Εκδόσεις Π. Χ. Πασχαλίδη, Αθήνα.

6.Dandy D., Edwards D. (2004). Βασική Ορθοπαιδική και Τραυματιολογία. (Μετάφραση Αγγλικής Έκδοσης) Επιστημονικές Εκδόσεις Παρισιάνος, Αθήνα.

7.Happenfeld S. (1999). Φυσική Εξέταση της Σπονδυλικής Στήλης και των Κάτω άκρων. (Μετάφραση Αγγλικής Έκδοσης) Επιστημονικές Εκδόσεις Παρισιάνος, Αθήνα.

ENGLISH

1.Dutton M. (2004). Orthopaedic Examination, Evaluation and Intervention. Mc-Graw-Hill.

2.Kesson M., Atkins E. (2005). Orthopaedic Medicine. A practical approach. 2nd Revised edition. Butterworth-Heinemann Ltd, London.

3.Magee D. (2006). Orthopedic Physical Assessment. Saunders.

4.Skinner H. (2006). Current Diagnostic and treatment. Orthopedics. Mc-Graw-Hill.

5.Solomon L., Warchick D., Nayacam S. (2005). Apley's Concise System of Orthopaedics and Fractures Holder Arnold.

6.Solter R. (1999). Textbook of Disorders and Injuries of the Myoskeletal System. William and Willkins, Baltimore.

COURSE OUTLINE

NEUROLOGY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_302**	**SEMESTER**	**3rd**
COURSE TITLE	**NEUROLOGY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**ECTS CREDITS**
LECTURES	3	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	General background Special background Specialised knowledge,
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Paediatric Physiotherapy (6th)** • **Adult Clinical Neurological Physiotherapy (7th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek, English (optional)
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*

- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

Students at the end of the course will acquire the following skills -

- The ability to recognize symptoms that may indicate neurological disease
- The competency to distinguish physiological from pathological findings in a neurological examination
- The ability to identify the potential area (s) in the nervous system when a pathological process causes the patient's symptoms and signs
- The knowledge of the pathophysiology and symptomatology of the diseases of Neurology.
- Awareness of the principles governing a systematic approach to the management of common neurological diseases

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Project planning and management
Respect for difference and multiculturalism
inductive thinking

Decision making
Criticism and self-criticism
Adapting to new situations

3. SYLLABUS

1.Clinical Neuro-anatomyl and Diagnostics.
2. Pathology
- Vascular cerebral diseases,
- Demyelinating diseases,
- Mobility disorders,
- Epilepsy
- Neuromuscular diseases and spinal cord diseases
- Clinical disorders of the cranial nerves
- Headache and pain
- Neuro-Oncology and Paraneoplastic Diseases
- Neurological manifestations of Systemic Diseases
- Sleep Disorders
- Emergencies in Neurology

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Lectures, tutorials, seminars work face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint presentations) in teaching. The lectures content of the course for each chapter are uploaded on the internet (e-class platform), in the form of a series of ppt files, where from the students can freely download them using a password which is provided to them at the beginning

<table>
<tr><td></td><td>of the course.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures</td><td>45</td></tr>
<tr><td>Case studies</td><td>35</td></tr>
<tr><td>Projects</td><td>20</td></tr>
<tr><td>Private study</td><td>20</td></tr>
<tr><td>Course total</td><td>100</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other. Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td>Lectures

Written examination at the end of the semester (multiple choice questions, true-false, short answers, clinical problem solving) –

Minimum passing grade: 5.</td></tr>
</table>

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

1. Βιβλίο [22768737]: Νευρολογία, Masuhr Karl, Marianne Neumann

2. Εγχειρίδιο κλινικής νευρολογίας Ιατρικές Εκδόσεις Π. Χ. Πασχαλίδης(2009I ISBN: 960-399-782-X

3. Βιβλίο [59395690]: Νευρολογία Λογοθέτη, 5η έκδοση, Λογοθέτης Ιωάννης, Μυλωνάς Ιωάννης

4. Ηλεκτρονική διάθεση σημειώσεων μαθημάτων

5. Οδηγίες συστάσεις της AHA/ASA (American Stoke Association). ESO (European Stroke Organization). AAN (American Academy of Neurology), της Ελληνικής Εταιρείας Αγγειακών Εγκεφαλικών νόσων και της Ελληνικής Νευρολογικής Εταιρείας παρέχονται ηλεκτρονικά

6. Νευρολογία - Adams Raymond D., Ιατρικές Εκδόσεις Π. Χ. Πασχαλίδης 2004, ISBN:960-399-158-9

JOURNALS

The Lancet Neurology
Brain
The annals of Neurology
Stroke

COURSE OUTLINE

PRINCIPLES OF CARDIO-RESPIRATORY PHYSIOTERAPY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_303**	**SEMESTER**	**3rd**
COURSE TITLE	**PRINCIPLES OF CARDIO-RESPIRATORY PHYSIOTERAPY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	3	5
LABORATRY EXERSISE	-	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised knowledge-skills development
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Practice in Physiotherapy (8th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of*

the European Higher Education Area

- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the completion of the course students will:

▪ have obtained in depth knowledge of the anatomy/physiology of the respiratory and cardiovascular system
▪ have acquired the skill to understand the pathophysiology of the main respiratory and cardiovascular diseases and the pathophysiology of special populations (patients with musculoskeletal/neurological disorders, children, old people, athletes)
▪have gained the skill to assess/evaluate a patient with respiratory or cardiovascular disease or people from a special population
▪ be able to set realistic goals for therapy for these patients
▪ have the competency to use evidence-based techniques and approaches for the management of a patient with respiratory or cardiovascular disease or of people from a special population
▪show the ability to organize and perform an appropriate individualized programme of exercises for a patient with respiratory or cardiovascular disease
▪have obtained the skills to combine respiratory and cardiovascular exercises properly

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an interdisciplinary environment
Respect for difference and multiculturalism
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking

3. SYLLABUS

The respiratory and cardiovascular system are taught equally in amount:

The students study principles of the assessment and management of diseases such as the respiratory failure, diseases of obstructive and restrictive type, diseases of infants/children,

as well as rehabilitation after surgery and rehabilitation in the Intensive Care Unit. Also, they study the various cardiovascular diseases, hypertension/hypotension, and about heart and vessels surgeries. Students primarily study how to manage all the afore-mentioned diseases using techniques of respiratory or cardiovascular physiotherapy and how to prepare an organized and appropriate individualized programme for each of these patients. Students also learn techniques of respiratory and cardiovascular physiotherapy. In particular, diaphragm respiration, auscultation of pulmonary sounds, drainage positions or other techniques of pulmonary drainage, post-surgery techniques and in general respiratory rehabilitation programmes. Regarding the cardiovascular system, they study palpation of the heart, auscultation of heart sounds, measurement of blood pressure, and in general assessment of cardiovascular patients, cardiovascular resuscitation and various rehabilitation techniques and exercises for cardiovascular patients of any age. Study of special equipment used to perform all the above also takes place.

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>• Discussions in the e-class platform
• Videos
• Multimedia</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Theoretical part (Lectures):</td><td>130</td></tr>
<tr><td>Lectures, interactive teaching, project</td><td>70</td></tr>
<tr><td>Seminars/ presentations of clinical cases</td><td>30</td></tr>
<tr><td>Individual (independent) study</td><td>30</td></tr>
<tr><td>Course Total
(25 hours of workload per credit)</td><td>130</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</td><td>Evaluation:
Multiple choice questions, Questions of short answers, Problem solving, Questions to elaborate, Written assignment (potential ways of assessment). Assessment of theory takes place at the end of the semester and in September during the 2nd exams period, using written examination. If the teacher wishes voluntary assignments can be given during the semester and which are taken into account at the student’s final grade.

For Erasmus students the theoretical part of the</td></tr>
</table>

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.	examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will be provided by the tutor and agreed by the student. Language of assessment: Greek, English for Erasmus students.

5. ATTACHED BIBLIOGRAPHY

- *Suggested bibliography:*

1. Brewis R.A.L. (2003). Νόσοι του Αναπνευστικού Συστήματος. Εκδ. Παρισιάνος, Αθήνα.
2. Ellis E., Key A.J. (1994). Issues in Cardiorespiratory Physiotherapy. Butterworth-Heinemmann. 2nd ed., Oxford.
3. Frownfelter D., Dean E. (2006). Cardiovascular and Pulmonary Physical Therapy. Evidence and Practice. Mosby Elsevier.
4th ed.
4. Polden M.M. (1990). Physiotherapy in obstetrics and gynaecology.
5. Pryor J.A., Prasad S.A. (2002). Physiotherapy for respiratory and Cardiac Problems. Adults and Paediatrics. Churchill
Livingstone. 3rd ed., London.
6. Stephenson R., O' Connor L.G. (2000). Obstetrics and gynaecology care in Physical Therapy. Slack Incorporated, 2nd
Edition, US.
7. Wilkins R.L., Sheldon R.L., Krider S.J. (2005). Clinical Assessment in Respiratory Care. 4th ed., Mosby Elsevier.

- *Related academic journals:*

1. Breath (Sheffield) Journal
2. Heart (BMJ)
3. Journal of the American Heart Association (AHA/ASA Journal)
4. International Journal of Cardiology (Elsevier)
5. Online Cardiology Journal
6. The Journal of Thoracic and Cardiovascular Surgery
7. European Respiratory Journal
8. European Clinical Respiratory Journal
9. Respiratory Research
10. Thorax
11. American Journal of Respiratory Cell and Molecular Biology
12. Cardiovascular/Respiratory Physiotherapy
13. Cardiopulmonary Physical Therapy Journal (LWW Journals)

COURSE OUTLINE

KINESIOTHERAPY

1. GENERAL

SCHOOL	**SCHOOL OF HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_304**	**SEMESTER**	**3rd**
COURSE TITLE	**KINESIOTHERAPY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	**2**	**5**
LABORATORY EXERSISE	1	
CLINICAL PRACTICE	1	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	**Specialized module-Skills development**
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Musculoskeletal Physiotherapy I (5th)** • **Clinical Practice in Physiotherapy (8th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	**GREEK & ENGLISH**
IS THE COURSE OFFERED TO ERASMUS STUDENTS	**YES**
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes
The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described. *Consult Appendix A*

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the end of this module, the students will:

•obtain in depth understanding of the loads distributed to the human body in performing the various activities and interpret their contribution to the development of pathological body adaptations

•have specific and detailed knowledge of the types of injuries and pathologies of the human body

•have gained the skills to identify the aetiological factors of musculoskeletal injuries and apply evidence-based practice techniques to prevent them

•show the detailed knowledge of the models, procedures, and methods as well as the clinical documentation of Kinesiotherapy

• be aware of the fundamental principles of rehabilitation of each musculoskeletal injury and be able to choose the most appropriate techniques of kinesiotherapy based on modern literature.

•have the skills to design a kinesiotherapy programme that is safe and appropriate for any musculoskeletal pathology and is consistent with recent research findings.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Project planning and management
Production of free, creative and inductive thinking

3. SYLLABUS

Theoretical part

The curriculum of the theoretical part of this module focuses on learning the basic techniques of kinesiotherapy in injuries and pathologies of the musculoskeletal system, with a particular emphasis on the study of a) methods of joint mobilization (passive-active) and b) techniques and methods of restoring muscle functional capacity (Strength, endurance, flexibility,

proprioception, neuromuscular control). Emphasis is also given on the clinical evaluation of musculoskeletal injuries, on the progressiveness of their rehabilitation plan as well as on the evidence-based practice.

Laboratory Part

The curriculum of the laboratory part of this module focuses on the clinical evaluation and practical application of the following specialized kinesiotherapy techniques:
• Passive Joint Mobilization (Passive range of motion Techniques),
• Stretching (flexibility tests, flexibility techniques, static, ballistic stretching),
• Supported-assisted exercises,
• Active exercise-Isometric training (procedures and modes of isometric exercise, isometric in various lengths of muscular tissue),
• Resistance exercise (concentric -eccentric strengthening)
• Open and Closed Kinetic Chain Exercises,
• Plyometric Exercise
• Neuromuscular control exercises (proprioception - dynamic stabilization tests, proprioceptive retraining techniques).

Clinical Part

Clinical placement of this module encompasses the application of the above kinesiotherapy techniques which are applied in a clinical setting (patients, sports populations in hospital – rehabilitation clinics) under the supervision of the clinical tutor.

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to Face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Power point presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc, practical training applications.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Theoretical part (lectures)</td><td>80</td></tr>
<tr><td>Lectures, seminars, study and analysis of bibliography, tutorials, interactive teaching, educational visits.</td><td>60</td></tr>
<tr><td>Independent (personal) study Project, essay writing</td><td>20</td></tr>
<tr><td>Practical parts (Laboratory & Clinical)</td><td>50</td></tr>
<tr><td>Laboratory exercises, practical applications in small groups.</td><td>25</td></tr>
<tr><td>Clinical exercises in small groups of people/patients presenting with musculoskeletal dysfunctions</td><td>25</td></tr>
<tr><td>Course total</td><td>130</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE</td><td>Assessment methods</td></tr>
</table>

EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Theoretical part: Multiple Choice evaluation questions, Short Response Questions, Analysis-Presentation of Clinical Events - Practical Problems, Written Work (potential assessment methods selected by the instructor). Assessment Language: Greek and English for Erasmus students Practical-clinical Part: Oral/practical examination in each laboratory-clinical exercise, tested on models and healthy volunteers or patients. Student performance and evaluation for thepractical(laboratory & clinical) part of the module will take place throughout the whole semester (weekly during the practicals), as well as within set times at the end of the semester and maybe in the middle of it. Final Grade: The final score incorporates the assessment into each individual teaching activity (eglectures-essays) and is only given if the students are successfully examined in each activity

5. ATTACHED BIBLIOGRAPHY

- *Suggested bibliography:*

1.Bryan.Εγχειρίδιοθεραπευτικήςάσκησης. BrokenHillPublishers (in Greek)

2.HougloumPeggy (2018) .Κινησιοθεραπεία-Θεραπευτικές Ασκήσεις για Μυοσκελετικές Παθήσεις. Broken Hill Publishers. (in Greek)

3.BrentBrotzmanandKevinE. Wilk. Κλινική Ορθοπεδική Αποκατάσταση (2014). ΕκδόσειςΚωνσταντάρας (in Greek)

4. Αθανασόπουλος (1989). Κινησιοθεραπεία. Αθήνα (in Greek)

5. KisnerC, ColbyLA, (2003). Θεραπευτικές ασκήσεις. Βασικές αρχές και τεχνικές. Εκδ. Σιώκης(in Greek)

6. Κοτζαηλίας Δ (2008). Φυσικοθεραπεία σε κακώσεις του μυοσκελετικού συστήματος, UniversityStudioPress. (in Greek

7. DavidJ. Magee, JamesE. Zachazewski, WilliamS. Quillen (2008). Scientific Foundations and Principles of Practice in Musculoskeletal Rehabilitation (Musculoskeletal Rehabilitation Series. Saunders.

8. Robert E. McAtee (1999). Facilitated stretching, Human Kinetics.

9. Refshauge K, Gass E (2004). Musculoskeletal physiotherapy, Elsevier.

10. David H. Perrin (1993). Isokinetic exercise and assessment, Human Kinetics.

11.Ellenbecker TS, Davies GJ (2001).Closed kinetic chain exercises: a comprehensive guide to multiple joint exercise, Human Kinetics.

12. Radcliffe J, Farentinos J (2007). High powered plyometrics.

13. White M. Water exercise (1995). Human Kinetics.

- *Related academic journals:*

Journal of Sports Physiotherapy

British Journal of Sports Medicine

American Journal of Sports Medicine

Journal of Science and medicine in Sports

Journal of Sports Physical therapy

COURSE OUTLINE

CLINICAL PATIENT MANAGEMENT

1. GENERAL

SCHOOL	HEALTH REHABILITATION SCIENCES		
ACADEMIC UNIT	PHYSIOTHERAPY		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	**PTH_305**	**SEMESTER**	**3rd**
COURSE TITLE	**CLINICAL PATIENT MANAGEMENT**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	2	**6**
CLINICAL PRACTICE	4	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialized knowledge - skills development /Mandatory module
PREREQUISITE COURSES:	• **Pathology-Basic Principles of pathology** • **Kinesiology of the Extremities (2nd)**
DEPENDED COURSES:	• **Clinical Practice in Physiotherapy (8th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*

- *Guidelines for writing Learning Outcomes*

After the completion of the course the student will:

- Be able to apply cognitive and practical skills that are required for using the wide range of knowledge obtained from the clinical environment of the patient.
- Present the competency to identify and solve common problems related to in-patient and out-patient care by applying basic principles of the clinical management of the patient.
- Have obtained in depth knowledge about safety rules of the various clinical environments (hospitals, rehabilitation centers, physiotherapy clinics), thus, offering a safe therapy environment for both the patient and himself.
- Have the skills to communicate with an excellent and professional way with the patient and his/her family.
- Be able to follow suggested approaches for weight management, and patients' transfer, based on scientific data and by applying basic principles of ergonomics and injury prevention.
- Have gained the skills to collect the history of the patient and to keep records of all findings in an organized manner in the patients' file and his/her subjective and objective assessment.
- Have the specific knowledge of the ethics rules related to management of the patient.
- Present the competency and appropriate skills to co-operate with the physician and the rest inter-disciplinary team to promote the best rehabilitation of the patient.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…….*

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Adapting to new situations
- Decision-making
- Working independently
- Team work
- Working in an interdisciplinary environment
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

In the **theoretical part** of the course, the basic principles of the management of the patient are taught as well as scientific facts related to main approaches and safety issues. The law framework for the patients' care is presented, and basic principles for the effectiveness in providing physiotherapy. At the same time, basic ethics rules for approaching the patient are presented and

the rights and obligations of the patient are pointed out. Discussion about contemporary tools of assessment and about recording of the condition of the patient, collecting information from the patients' file, while scientific data related to clinical guidelines for approaching the in-patient and out-patient are provided. Additionally, ways of safe transferring the patients and potential risks of injury are presented using recent evidence-based and international scientific knowledge.

In the **practical part** of the course, the students are visiting various state or private clinics to familiarize themselves with the different clinical environments, and with different types of pathologies and stages of diseases. During these visits, they adequately familiarize themselves with ways of functioning and administration of the different units, and recognize the role of each health professional of the inter-disciplinary team. At the same time, they learn basic principles of hygiene and safety, attend the medical assessment, and join educational sessions of the inter-disciplinary team. They also get prepared for collecting data from a medical history, recording a history, or other subjective and objective assessments in a systematic and organized way. Further, they are trained in how to communicate and approach the patient, use specific equipment, transfer patients with safety according to ergonomics principles, recognize any risks of injury and co-operate with the supervisors/people in charge of the clinic.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	• Discussions in the e-class platform • Videos • Multimedia
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure*	**Lecture part:** Multiple choice questions, Questions of short answers, Problem solving, Questions to elaborate, Written assignment (potential ways of assessment). Assessment of theory takes place at the end of the semester and in

Activity	*Semester workload*
Theoretical part (lectures):	**100**
Lectures, Seminars/ presentations of clinical cases, interactive teaching, project work	70
Independent -non-directed (personal) study	30
Practical part (clinical practice): Clinical exercises, practical applications in small groups or pairs of volunteers and/or across patients in clinical environments (i.e. hospitals, nursing homes, rehabilitation centres, special schools etc.)	**50**
Course total	**150**

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	September during the 2nd exams period, using written examination. If the teacher wishes voluntary assignments can be given during the semester and which are taken into account at the student's final grade. For **Erasmus students** the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will be provided by the tutor and agreed by the student. **Clinical part:** the evaluation of this part takes place during the whole period of the clinic in the various clinical/therapy places. A significant amount of each student's performance (grade) is based on how much he/her efficiently and safely approaches and manages the patient. The student should complete successfully the theoretical and practical (clinical) part of the module in order to accredited the grade for the module. **Language of evaluation:** Greek, English for Erasmus students

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

1. Page C. 2015, Management in Physical Therapy Practices, 2nd ed. Davis Company, Philadelphia.
2. Dutton M. 2014. Introduction to Physical Therapy and Patient Skills, Mark McGraw-Hill Education, China
3. Jewell D. 2018. Guide to Evidence-Based Physical Therapist Practice 4th ed. Jones and Bartlett Publishers
4. Fetters L., Tilson J. 2019. Evidence Based Physical Therapy. 2nd ed. Davis Company
5. Herbert R., Jamtvedt G., Hagen KB., Mead J. 2011. Practical Evidence-Based Physiotherapy, 2nd ed. Elsevier Churchill Livingstone.
6. World Confederation for Physical Therapy, 2007. Declaration of Principle
7. Chartered Society of Physiotherapy (CSP); 2014. Guidance on Manual Handling in Physiotherapy (4th edition). London, UK http://www.csp.org.uk/publications/guidance-manualhandling-physiotherapy
8. Australian Physiotherapy Association (APA); 2017. Practice Management Software insight 2018, https://australian.physio/sites/default/files/advocacy/download/APA_PM_Software_Audit_Oct_18_Final.pdf
9. Phillips A., Stiller K., Williams M. 2006, Medical Record Documentation: The quality of physiotherapy entries. The Internal Journal of Allied Health Sciences and Practice, 4 (3).
10. King J., Anderson C. 2010, Patient Safety and Physiotherapy: What Does it Mean for Your Clinical Practice? Physiotherapy Canada, 62 (3), doi: 10.3138/physio.62.3.172
11. Stokes M., Stack E. 2016. Κλινική Διαχείριση για Νευρολογικές Καταστάσεις, Εκδόσεις Παρισιάνου, Αθήνα.

- Related academic journals:

1. The Internal Journal of Allied Health Sciences and Practice
2. Physiotherapy Journal
3. Journal of Physical Therapy
4. Physiotherapy Canada

COURSE OUTLINE

BIOMECHANICS

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_306**	**SEMESTER**	**3rd**
COURSE TITLE	**BIOMECHANICS**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	3	**4**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Special Background - Special Knowledge
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*

- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this module the students will:

- Have obtained the skills to describe normal and pathological movements in order to be able to organize therapeutic intervention.
- Have gained the specific knowledge required to understand the structural and anatomic features of biomaterials and the effect of normal & excessive loading and immobilization on them.
- Be able to analyze how biomaterials respond to mechanical stress, at what rate and to what extent they recover their mechanical properties so that physiotherapeutic intervention is safe and effective.
- to be aware of the possibilities and limitations of modern biomechanical analysis tools and be able to properly evaluate and filter the relevant information

In particular, upon completion of the theoretical part of the course, the students will:

- have the knowledge of the mechanics of the human body and its individual biomaterials
- have the competency to refer to the natural laws governing kinetics and kinematics as well as balance
- have gained the knowledge of the mechanical behavior of the various tissues of the body (bone, cartilage, muscle, collagen) under load in normal conditions.
- Have the skills to analyze normal gait
- Have the specific knowledge of the modern methods used by biomechanics for the objective assessment of human attitude, movement and muscular function
- be aware of the pathogenicity of the major joints as a result of central or peripheral nervous system lesions as well as soft tissue lesions.
- Have the ability to recognize and distinguish between a qualitative and quantitative approach to analyzing human movement

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Team work
- Working in an international and an interdisciplinary environment
- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues

- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

The syllabus of this course focuses a) on the basic fundamental notions of statics, kinetics and kinematics, as well as Newton's laws for the foundation of knowledge about the effect of force application, friction and movement characteristics (speed, acceleration), b) the analysis of the basic mechanical properties of the biomaterials that are the various tissues of the musculoskeletal system and the way of loading of tension, compression, bending, torsion and complex stresses; (e) examining the effects of conditions such as immobility and over-stress; (f) on examining the properties of muscle fibers, anatomic force-determining agents, lesion-effect and macronutrition - muscle dynamics; g) on understanding the particular construction of the ligaments and tendons with their similarities and differences as collagen tissues, the mechanical response to the load with the characteristic deformation curve and the evolution of the healing process with respect to mechanical properties; (h) on understanding the bone tissue engineering of the body by analyzing fracture and chronic stress fractures (fatigue fracture), immobilization adjustments and mechanical behavior during the process of fraying; (i) on analyzing the mechanical behavior of the articular cartilage and how the various mechanical stresses lead to lesions and how they are associated with its particular friability; h) on analyzing the mechanical behavior of the peripheral nerves in conditions of mechanical strain (dilation, trapping) and how these are connected with nervous conduction disorders.
In addition, the course focus on: a) the high technology systems investigating the biomechanical motion, namely, the optoelectronic motion analysis system, the electromyography the isokinetic dynamometer and the force platform; b) the basic constructive particularities and presents the parameters that can be explored individually as well as in combination with each other; c) the possibilities of recording the musculoskeletal function (d) the physiological gait and the most abnormal pathologies are analyzed in detail and the ways of its assessment with clinical and laboratory criteria are presented.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Powerpoint presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc.
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity,*	

Activity	*Semester workload*
Theoretical part (lectures & tutorials)	**50**
Lectures, seminars, clinical presentations, interactive teaching, project work	30
Independent (personal) study	30
Course total	**110**

etc. *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	**Theoretical part:** Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work. The assessment of the theoretical part will take place at the end of each semester with written exams. The tutor has also the option to give provisional essays/reports throughout the semester, which will account for a percentage of the grade of the theoretical part. For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student. **Language of evaluation:** Greek & English (for Erasmus students)

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

(Greek)

1. Κινησιολογία του Μυοσκελετικού Συστήματος: Θεμέλια της Αποκατάστασης –D.A. Neumann, Εκδ. Αθανασόπουλος & ΣΙΑ, 2018
2. Κινησιολογία. Επιστημονική Βάση της Ανθρώπινης Κίνησης - HamiltonH. LutgensΕκδK. Παρισιάνου, 2013
3. Κινησιολογία. Η Μηχανική και Παθομηχανική της Ανθρώπινης Κίνησης, 3η εκδ. OatisC. Εκδ. Γκότσης, 20162. Τσακλης Π., (2005). Γενικές Αρχές Εργονομίας & Προληπτική Φυσικοθεραπεία, University Studio Press.
4. Hamill, J., Knutzen, K.M., (2005). Βασική βιομηχανική της ανθρώπινης κίνησης. Εκδόσεις Πασχαλίδης
5. Hamilton, N. Luttgens K., (2003). Κινησιολογία. Εκδόσεις Παρισιάνος
6. Πουλμέντης Πέτρος (2007). Βιολογική μηχανική – Εργονομία. Εκδόσεις Καπόπουλος.
7. Ζαφειρόπουλος Γεώργιος (1997). Λειτουργική Ανατομική-Εμβιομηχανική του μυοσκελετικού συστήματος. Εκδόσεις Παρισιάνου.

(English)

1. Augustus A. White III, Manohar M. Panjabi (1990), Clinical Biomechanics of the Spine.Lippincott Williams & Wilkins.
2. Bartel, D.L. Davy, D.T. Keaveny, T.M., (2006). Orthopaedic biomechanics: Mechanics and design in musculoskeletal systems. New Jersey: Pearson Prentice Hall
3. Blazevich AJ., (2007). Sports Biomechanics: The basics: Optimizing Human Performance 2nd Edition. A&C Black Publishers.
4. Coppard, B.M. Lohman, H., (2007). Introduction to splinting: a clinical reasoning and problem-solving approach (spiral-bound). Εκδόσεις Mosby
5. Dvir Z. (2004) Isokinetics: Muscle Testing, Interpretation and Clinical Applications, 2nd Edition. Churchill Livingstone

6. Enoka R. (2015). Neuromechanics of Human Movement 5th Edition eBook ISBN-13: 9781492503347.
7. Greene, D. Roberts, S.L., (2004). Kinesiology: movement in the context of activity. Mosby
8. Humphrey, J.D. Delance, S.L., (2004). An introduction to biomechanics: solids and fluids, analysis and design. New York: Springer.
9. Kendall, F P., (2005). Muscles: Testing And Function With Posture And Pain. Εκδόσεις Lippincott Williams & Wilkins
10. Lusardi, M. Nielsen C., (2000). Orthotics and prosthetics in rehabilitation. Εκδόσεις Butterworth-Heinemann.
11. Martin, R.B. Burr, D.B. Sharkey, N.A.,(2004). Skeletal tissue mechanics. New York: Springer.
12. McGinnis P., 2013. Biomechanics of Sport and Exercise 3rd Edition, Book with online resource ISBN-13: 9780736079662.
13. McKee P., (2008). Orthotics in rehabilitation: splinting the hand and body. Εκδόσεις F.A. Davis
14. Neumann, D., (2002). Kinesiology of the Musculoskeletal System. Εκδόσεις Mosby; 1st edition.
15. Nigg, B.M. MacIntosh, B.R. Mester, J., (2000). Biomechanics and biology of movement. Champaign Ill. Human Kinetics.
16. Nordin, M. Frankel, V.H., (2001). Basic biomechanics of the musculoskeletal system. Philadelphia: Lippincott Williams & Wilkins.
17. Oatis, C., (2004). Kinesiology: The Mechanics And Pathomechanics Of Human Movement. Lippincott Williams & Wilkins
18. Sanders, M.J., (2003). Ergonomics and the management of musculoskeletal disorders. Εκδόσεις Butterworth-Heinemann
19. Schmidt R and Lee t. (2014), Motor Learning and Performance, 5E Kindle Edition. Human Kinetics.
20. Wilson, A., (2002). Effective management of musculoskeletal injury: a clinical ergonomics approach to prevention, treatment and rehabilitation. Εκδόσεις Saunders Co
21. Winter D.A. (2004). Biomechanics and Motor Control of Human Movement (Hardcover) by Wiley; 3 edition.
22. Zatsiorsky, V.M., (2002). Kinetics of human motion. Champaign: Human Kinetics
23. Knudson D., (2007). Fundamentals of Biomechanics, Springer Enoka. R. M. (2002). Neuromechanics of Human Movement-3rd Edition. Human Kinetics.
24. Jozsa L. (1997). Human Tendons - Anatomy, Physiology, and Pathology. Human Kinetics.
25. Knudson D., Morrison C (2002). Qualitative Analysis of Human Movement-2nd Edition Human Kinetics.
26. Mac Intosh. B.R. (2006). Skeletal Muscle-2nd Edition - Form and Function Human Kinetics.
27. Seibel M.J., Robins S.P., Bilezikian J.P. (2006). Dynamics of Bone and Cartilage Metabolism: Principles and Clinical Applications (Hardcover) 2nd ed by Academic Press.
28. Van Mow C. (2004). Basic Orthopaedic Biomechanics and Mechano-Biology Lippincott.
29. Smidt G.L. (1990). Clinics in Physical Therapy : Gait in Rehabilitation. Churchill Livingstone.
30. Whiting W.C., Zernicke R.F.(1998). Biomechanics of Musculoskeletal Injury. Human Kinetics.
31. Whittle M.W. (2007). Gait Analysis, 4th Edition - An Introduction. Butterworth-Heinemann.
32. Wood T.M. (2006). Measurement Theory and Practice in Kinesiology Human Kinetics

- Related academic journals:

- Journal of Applied Biomechanics
- Journal of Biomechanics
- Sports Biomechanics
- Clinical Biomechanics
- Journal of Orthopaedic & Sports Physical Therapy
- Physical Therapy
- Physical Therapy in Sport
- Sports Physical Therapy

COURSE OUTLINES

4TH SEMESTER

COURSE OUTLINE

CLINICAL CARDIO-RESPIRATORY PHYSIOTHERAPY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_401**	**SEMESTER**	**4th**
COURSE TITLE	**CLINICAL CARDIO-RESPIRATORY PHYSIOTHERAPY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	2	**6**
CLINICAL PRACTICE	6	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised knowledge-skills development
PREREQUISITE COURSES:	• **Physiology (1st)** • **Anatomy of Musculoskeletal System (1st)** • **Pathophysiology-Basic Principles of Internal Medicine (2nd)**
DEPENDED COURSES:	• **Clinical Practice in Physiotherapy (8th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes
The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the completion of the course students will have:

▪ familiarized themselves adequately with the health Units (administration, role of each health professional etc.), in which patients with cardiopulmonary diseases are hospitalized

▪ used evidence-based techniques and approaches for the management of a patient with respiratory or cardiovascular disease or of people from a special population

▪ gained the skills to critically assess in depth patients with various respiratory and cardiovascular diseases

▪ gained the competency to set realistic goals for therapy for these patients

▪ the scecialized knowledge to organize and perform an appropriate individualized programme of rehabilitation (including exercises) for a patient with respiratory or cardiovascular disease

▪ the skills to combine respiratory and cardiovascular physiotherapy programmes properly

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an interdisciplinary environment
Respect for difference and multiculturalism
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking

3. SYLLABUS

The course includes the following:
Assessment of cardiopulmonary diseases. In particular, measurement of blood pressure, auscultation of pulmonary sounds, palpations etc. Also, principles of the management of respiratory disease patients such as drainage positions or other techniques of pulmonary drainage, post-surgery techniques and in general respiratory rehabilitation programmes. Assessment of the cardiovascular patients and exercise programmes for cardiovascular patients are also taught.

In the practical part (clinic), students primarily practice how to manage respiratory diseases using techniques of respiratory physiotherapy (drainage positions, respiratory techniques for brocheal/pulmonary clearing, diahragm respiration, auscultation of pulmonary sounds etc), and how to prepare an organized and appropriate individualized programmes for patients with respiratory diseases. Students also familarize themselves with the Intensive Care Unit, such as use of equipment, role of the physiotherapist, management of pulmonary diseases. Regarding the cardiovascular system, students practice how to perform heart palpation, auscultation of heart sounds, measurement of blood pressure, and in general assessment of cardiovascular patients, as well as cardiovascular resuscitation and various rehabilitation techniques and exercises for cardiovascular patients.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	• Discussions in the e-class platform • Videos • Multimedia
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	

Activity	***Semester workload***
Theoretical part (Lectures-Tutorials):	**50**
Lectures, Seminars/case studies, interactive teaching, project	20
Non-guided study	30
Laboratory/Clinical part:	**90**
Workshops, clinical practice with patients, practical applications of exercises in small groups of students, assessment of a clinical case.	The individual allocation of the workload by activity is determined by the responsible teacher
Course Total	**160**

	(25 hours of workload per credit)	
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	**Evaluation:** **Lecture part:** Multiple choice questions, Questions of short answers, Problem solving, Questions to elaborate, Written assignment (potential ways of assessment). Assessment of theory takes place at the end of the semester and in September during the 2nd exams period, using written examination. If the teacher wishes voluntary assignments can be given during the semester and which are taken into account at the student's final grade. For **Erasmus students** the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will be provided by the tutor and agreed by the student. **Clinical part:** this evaluation takes place during the whole period of the clinic in the various clinical/ therapy places. A significant amount of each student's performance (grade) is based on how he selects the most appropriate programme and how well he/she can perform the "exercises" to the patient. The student should complete successfully the theoretical and practical (clinical) part of the module in order to accredited the grade for the module. Language of assessment: Greek, English for Erasmus students	

5. ATTACHED BIBLIOGRAPHY

- *Suggested bibliography:*

1. Brewis R.A.L. (2003). Νόσοι του Αναπνευστικού Συστήματος. Εκδ. Παρισιάνος, Αθήνα.
2. Ellis E., Key A.J. (1994). Issues in Cardiorespiratory Physiotherapy. Butterworth-Heinemmann. 2nd ed., Oxford.
3. Frownfelter D., Dean E. (2006). Cardiovascular and Pulmonary Physical Therapy. Evidence and Practice. Mosby Elsevier.
4th ed.
4. Polden M.M. (1990). Physiotherapy in obstetrics and gynaecology.
5. Pryor J.A., Prasad S.A. (2002). Physiotherapy for respiratory and Cardiac Problems. Adults and Paediatrics. Churchill
Livingstone. 3rd ed., London.
6. Stephenson R., O' Connor L.G. (2000). Obstetrics and gynaecology care in Physical Therapy. Slack Incorporated, 2nd
Edition, US.
7. Wilkins R.L., Sheldon R.L., Krider S.J. (2005). Clinical Assessment in Respiratory Care. 4th ed.,

Mosby Elsevier.

- *Related academic journals:*

1. Breath (Sheffield) Journal
2. Heart (BMJ)
3. Journal of the American Heart Association (AHA/ASA Journal)
4. International Journal of Cardiology (Elsevier)
5. Online Cardiology Journal
6. The Journal of Thoracic and Cardiovascular Surgery
7. European Respiratory Journal
8. European Clinical Respiratory Journal
9. Respiratory Research
10. Thorax
11. American Journal of Respiratory Cell and Molecular Biology
12. Cardiovascular/Respiratory Physiotherapy
13. Cardiopulmonary Physical Therapy Journal (LWW Journals)

COURSE OUTLINE

PRINCIPLES OF MUSCULOSKELETAL PHYSIOTHERAPY

1. GENERAL

SCHOOL	**SCHOOL OF HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_402**	**SEMESTER**	**4th**
COURSE TITLE	**PRINCIPLES OF MUSCULOSKELETAL PHYSIOTHERAPY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	3	5
TUTORIALS	0	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Special background
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Practice in Physiotherapy (8th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*

- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the completion of the course, students will:

- be able to distinguish between types of musculoskeletal injuries and identify the involved tissues.
- be aware of the natural healing process, adapted on each separate tissue, and plan the optimal treatment strategy
- have the competency to acknowledge the principles of each musculoskeletap injury and approach treatment on an evidence-based fashion
- gained the scecific knowledge of the contra-indications of the basic treatment methods for musculoskeletal injuries and have gained the skills to plan a safe individualised programme

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Adapting to new situations
- Decision-making
- Working independently
- Team work
- Production of free, creative and inductive thinking
- Production of new research ideas
- Production of free, creative and inductive thinking

3. SYLLABUS

The syllabus focuses on establishing basic knowledge on bony, muscular, tendinous, capsuloligamentous, intra-articlar and peripheral nerve pathologies, either acute or chronic developing physiotherapeutic managing skills, based on scientific evidence and adopted for each individual case. Case scenarios also are presented to provide real examples in a variety of pathologies. Emphasis is given on safety in each stage of healing

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	▪ Power point presentations ▪ Use of artificial cross-sections ▪ Video analysis

TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	***Activity***	***Semester Workload (ECTS)***
	Theoretical part (Lectures & tutorials):	**130**
	Lectures, interactive training	60
	Seminars, analysis of clinical cases	20
	Non-directed study	50
	Total (25-30 hours per ECTS unit)	**130**
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Assessment methods: **Theoretical part:** Multiple choice, short-answer questions, practical examples analysis, essays (potential assessment methods decided by the examiner) **Practical part:** Oral examination on examples of applied motions	

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

1. Musculoskeletal Interventions: Techniques for therapeutic exercsise, 3rd ed. B J. Hoogenboom, M L. Voight & W E. Prentice. McGraw-Hill 2014

2. KisnerC., ColbyL.A. Θεραπευτικές Ασκήσεις. Βασικές Αρχές και Τεχνικές, (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Σιώκη, Θεσσαλονίκη 2003.

3. Hertling D. Management of common musculoskeletal disorders: physical therapy principles and methods. 4th ed. Lippincott Williams & Wilkins, Philadelphia 2006.

4. HoppenfeldS. Ορθοπεδική Νευρολογία. (Μετάφραση Αγγλικής Έκδοσης), Εκδ. Παρισιάνου, Αθήνα 2000.

5. Clinical Orthopaedic Rehabilitation. Brotzman S. B., Manske R C. Elsevier, 2011

- Related academic journals:

10. *1. Journal of Orthopaedic& Sports Physical Therapy*
11. *2. JBR Journal of Clinical Diagnosis and Research*
12. *3. Journal of Orthopaedic& Sports Physical Therapy*
13. *4. Musculoskeletal Science & Practice*
14. *5. BMC Musculoskeletal Disorders*
15. *6. Physiotherapy*
16. *7. Journal of Manual & Manipulative Therapy*

COURSE OUTLINE

CLINICAL PHYSIOTHERAPEUTIC ASSESSMENT

1. GENERAL

SCHOOL	**SCHOOL OF HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_403**	**SEMESTER**	**4th**
COURSE TITLE	**CLINICAL PHYSIOTHERAPEUTIC ASSESSMENT**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	3	6
LABORATORY EXERCICES	1	
CLINICAL PRACTICE	1	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Special background
PREREQUISITE COURSES:	• **Kinesiology of The Trunk (1st)** • **Kinesiology of The Extremities (2nd)**
DEPENDED COURSES:	• **Clinical Practice in Physiotherapy (8th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the completion of the course, students will:

- be able to assess patients chosing the appropriate and safe approach for recording the subjective and objective findings
- have the competency to acknowledge red flags and the importance of immediate referral of patients when needed
- have gained the skills to organise physiotherapy treatment -based on solid scientific evidence, considering limitations and adapting the plan on each patients' stage of healing and severity of pathology
- be precise and reliable in their examination skills
- be able to use efficiently the proper clinical and functional tests
- have the skills to assess each patient holistically, co-examining the local, systemic and psychosomatic effects of pathology and considering each patients' potential of coping with the suggested tretment

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas
Project planning and management
Respect for difference and multiculturalism
Respect for the natural environment
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking
……
Others…
…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Adapting to new situations
- Decision-making
- Working independently
- Team work
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

The syllabus covers a wide area of holistically assessing a patient, applying a variety of established, examination methods, manoeuvres and skills, reliably. Students are educated and trained on strategies to take an efficient history, to assess pain, to apply clinical examination tests and complete a functional assessment. This particular module stresses the importance of safety during patient examination and differential diagnosis. It attempts to provide a balanced theoretical and hands-on training of future physiotherapists, aiming in establishing a basis for students' training in clinics, as well as in other clinically demanding modules of the more advanced semesters of the course.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	▪ Power point presentations ▪ Use of artificial cross-sections ▪ Video analysis
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended*	Assessment methods: **Theoretical part:** Multiple choice, short-answer questions, practical examples analysis, essays (potential assessment methods decided by the examiner) **Practical part:** Oral examination on clinical examination methods

Activity	*Semester Workload (ECTS)*
Theoretical part (Lectures):	**120**
Lectures	50
Project	20
Non-directed study	50
Practical part (Laboratory):	**60**
Laboratory practice	40
Clinical practice	20
Total (25-30 hours per ECTS unit)	**180**

questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	and skills

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

1. *Orthopedic Physical Assessment 6th ed. DJ Magee. Saunders 2014*
2. *Examination of Musculoskeletal Injuries 4th ed. Shultz, S. and Houglum, P. Human Kinetics 2015*
3. *Grieve's Modern Musculoskeletal Physiotherapy 4th ed..G Jull, A. Moore. Elsevier 2015*
4. *Neuromusculoskeletal Examination and Assessment: A Handbook for Therapists (Physiotherapy Essentials). NJ Petty. Elsevier 2005*

- Related academic journals:

17. *JBR Journal of Clinical Diagnosis and Research*
18. *Journal of Orthopaedic& Sports Physical Therapy*
19. *Musculoskeletal Science & Practice*
20. *BMC Musculoskeletal Disorders*
21. *Physiotherapy*
22. *Journal of Manual & Manipulative Therapy.*

COURSE OUTLINE

CLINICAL REASONING AND DECISSION MAKING IN PHYSIOTHERAPY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_404**	**SEMESTER**	**4th**
COURSE TITLE	**CLINICAL REASONING AND DECISSION MAKING IN PHYSIOTHERAPY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	2	**4**
CLINICAL PRACTICE	1	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised knowledge -skills development
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Practice in Physiotherapy (8th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this module the students will:

- be able to understand the loads distributed to the human body in performing the various activities and interpret their contribution to the development of pathological body adjustments
- have a detailed knowledge about the types of neuromuscular lesions of the human body
- present the competency to acknowledge the healing stages of injuries and pathological adaptations of the human body as well as the ideal physiotherapeutic intervention in them.
- have gained the specific knowledge of the fundamental principles of restoration of each musculoskeletal lesion and be able to choose the most appropriate treatment techniques based on modern literature.
- Be able to develop the appropriate clinical reasoning according to the condition and the injury
- have obtained the skills to design a progressive and specialized physiotherapy programme that is safe and appropriate for any musculoskeletal injuries and is consistent with recent research data.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas
Project planning and management
Respect for difference and multiculturalism
Respect for the natural environment
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking
Others…

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Team work
- Working in an international and an interdisciplinary environment
- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism

- Production of free, creative and inductive thinking

3. SYLLABUS

The syllabus of this course focuses on the training of students in techniques and methods of assessing the pathological adaptations of the human body at all stages (acute, subacute, chronic) as well as in the techniques of clinical reasoning and decision making for the selection of documented therapeutic programmes.

In detail, the modules of the theoretical and clinical lesson include the following sections.
1. Analysis of the concept of clinical reasoning and its context.
2. The role and position of Physiotherapist in the rehabilitation team
3. Stages-Selection-Progress-Personalization Physiotherapeutic programmes for recovery of injuries and diseases
4. Decision making models for Health Scientists
5. Shoulder injuries: Major injuries, pathological manifestations and adaptations, specialized assessment techniques, stages and progression of clinical Reason, decision making and design of rehabilitation physiotherapy programmes.
6. Elbow injuries: Major injuries, pathological manifestations and adaptations, specialized assessment techniques, stages and progress of clinical Reconciliation, decision making and design of physiotherapy rehabilitation programmes.
7. Wrist injuries: Major injuries, pathological manifestations and adaptations, specialized assessment techniques, stages and progress of clinical Reasoning, decision making and planning of physiotherapy rehabilitation programmes.
8. Core lesions: Major injuries, pathological manifestations and adaptations, specialized assessment techniques, stages and progress of clinical Reconciliation, decision making and design of physiotherapy rehabilitation programmes.
9. Hip injuries: Major injuries, pathological events and adaptations, specialized assessment techniques, stages and progress of clinical References, decision making and design of rehabilitation physiotherapy programmes.
10. Knee injuries: Major injuries, pathological manifestations and adaptations, specialized assessment techniques, steps and progress of clinical Symptom, decision making and design of physiotherapy rehabilitation programmes.
11. Tibial and ankle injuries: Major injuries, pathological manifestations and adaptations, specialized assessment techniques, stages and progress of clinical counseling, decision making and planning of physiotherapy rehabilitation programmes.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face

<table>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Powerpoint presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Theoretical part (lectures & tutorials)</td><td>40</td></tr>
<tr><td>Lectures, seminars, clinical presentations, interactive teaching, project work</td><td>20</td></tr>
<tr><td>Independent (personal) study</td><td>20</td></tr>
<tr><td>Clinical part</td><td>30</td></tr>
<tr><td>Course total</td><td>110</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td>Theoretical part: Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work.
The assessment of the theoretical part will take place at the end of each semester with written exams. The tutor has also the option to give provisional essays/reports throughout the semester, which will account for a percentage of the grade of the theoretical part.
For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student.
Clinical part: Case study presentations, reports problem solving, written projects.

Language of evaluation: Greek & English (for Erasmus students)</td></tr>
</table>

5. ATTACHED BIBLIOGRAPHY

- *Suggested bibliography:*

(Greek)

8. Hougloum Peggy (2018) .Κινησιοθεραπεία-Θεραπευτικές Ασκήσεις για Μυοσκελετικές Παθήσεις. Broken Hill Publishers.

9. Brent Brotzman and Kevin E. Wilk. Κλινική Ορθοπεδική Αποκατάσταση (2014). Εκδόσεις Κωνσταντάρας
10. Kisner C, Colby LA, (2003). Θεραπευτικές ασκήσεις. Βασικές αρχές και τεχνικές. Εκδ. Σιώκης
11. Κοτζαηλίας Δ (2008). Φυσικοθεραπεία σε κακώσεις του μυοσκελετικού συστήματος, University Studio Press.

(English)

1. Higgs, J., Jones, M. A., Loftus, S., & Christensen, N. (2018). Clinical Reasoning in the Health Professions E-Book. Elsevier Health Sciences.

2. Jones, Mark A., and Darren A. Rivett. Clinical Reasoning for Manual Therapists E-Book. Elsevier Health Sciences, 2003.3. Refshauge K, Gass E (2004). Musculoskeletal physiotherapy, Elsevier.

- Related academic journals:

1. Journal of Physiotherapy
2. Journal of Sports Physiotherapy
3. British Journal of Sports Medicine
4. American Journal of Sports Medicine
5. Journal of Science and medicine in Sports
5. Journal of Sports Physical therapy

COURSE OUTLINE

PHYSICAL MODALITIES – CLINICAL ELECTROTHERAPY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_405**	**SEMESTER**	**4th**
COURSE TITLE	**PHYSICAL MODALITIES – CLINICAL ELECTROTHERAPY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURE	2	**5**
LABORATORY EXERCISE	1	
CLINICAL PRACTICE	1	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialized knowledge - skills development /Mandatory module
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Practice in Physiotherapy (8th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this module the students will:

- be able to integrate the problem-solving process into the application of physical modalities and electrotherapy for a patient with a sound physiological rationale
- have the competency to compare different application techniques, contrast the various types of current modulation, determine alternative treatment set-ups, and identify practical application techniques and challenges for physical agents
- have the skills to document the sensations of different forms of therapeutic physical modalities, and begin to familiarize themselves with the similarities and differences among them
- have the ability and the knowledge to discuss the precautions and contraindications in selecting a particular physical agent which are part of the decision-making process to accomplish a treatment goal.
- Have accomplished and in depth understanding on how the tissues response to injury and which are the physiological responses to innervations applied
- Have the ability to describe the common concepts for the theory of pain transmission and perception and explain the pain management through the electrotherapy stimulation and the physical agents applications,
- Have gained the skills to describe and involve application techniques using thermal agents, cryotherapy, hydrotherapy, neuromuscular electrical stimulation and electrical stimulation for tissue repair and pain management
- Be able to create a safe environment when using electrical equipment

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*

Production of new research ideas	*Others…* *…….*

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Team work
- Working in an international and an interdisciplinary environment
- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

The **theoretical part** of this module provides a theoretically based but practically oriented guide to the use of the therapeutic physiotherapy modalities for treating musculoskeletal disorders, sport injuries and neuromuscular dysfunction. Special emphasis is given to the neurophysiologic mechanisms of pain and the role of therapeutic modalities in pain management. Additionally, this part of the module enhances the critical thinking and discussions about the precautions and contraindications of the physical modalities by giving the rationales for each with the specific aim to accomplish the therapeutic treatment goals with the physical agents. The content of this part includes the thermotherapy and cryotherapy approaches with special reference to hot and cold packs, paraffin, the electromagnetic energy modalities of shortwave and microwave diathermy, the therapeutic ultrasound, the low-level laser and the new high-frequency laser. The electrical energy modalities are discussed at the second half of the semester by focusing at the basic principles of electricity and electrical stimulating currents with the main focus to differentiate between the various currents that can be selected on many modern generators including high-volt, biphasic, microcurrent, Russian, interferential, premodulated interferential, electrical stimulating currents.

At the **practical part** of this module patient scenarios are included to provide opportunities for problem-solving activities in guided lab activities. Each lab activity is introduced with a purpose, objectives, and equipment needed, as part of the decision-making process in selecting a particular physical agent to accomplish a treatment goal in different phases of the healing process. Practical applications on patients are also included while practicing the techniques, discussing outcomes and soliciting feedback. Special focus of this part is to integrate the problem-solving process into the application of the various therapeutic modalities by choosing specific treatment parameters such as frequency, intensity, duration, and polarity that must be considered in line with the pain management and healing process.

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Powerpoint presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Theoretical part (lectures)</td><td>80</td></tr>
<tr><td>Lectures, seminars, clinical presentations, interactive teaching, project work</td><td>60</td></tr>
<tr><td>Independent -non-directed (personal) study</td><td>20</td></tr>
<tr><td>Practical part (laboratory and clinical practice):

Clinical exercises, practical applications in small groups or pairs of volunteers and/or across patients</td><td>50</td></tr>
<tr><td>Course total</td><td>130</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td>Theoretical part: Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work.
The assessment of the theoretical part will take place at the end of each semester with written exams. At the discretion of the tutor, it may be possible to assign optional work during the course of the semester to be taken into account in the final score.

For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will be provided by the tutor and agreed by the student.

Practical part: Oral /practical examination in each clinical exercise, tested on volunteers, whereas, the biggest part of the practical examination will take place on symptomatic volunteers and patients. Safety, clinical skill, effectiveness, knowledge, technique and overall performance will be evaluated.

Student performance and evaluation for the practical part of the module will take place throughout the whole</td></tr>
</table>

	semester (weekly during the practical sessions in the clinical environment), as well as within set times at the end of the semester. The student should complete successfully the theoretical and practical part of the module in order to accredited the grade for the module. **Language of evaluation:** Greek & English (for Erasmus students)

5. ATTACHED BIBLIOGRAPHY

- *Suggested bibliography (Greek):*

12. Watson T. (2011). Ηλεκτροθεραπεια, Τεκμηριωμένη Πρακτική, Broken Hills, Αθήνα
13. Nanda BK. (2015) Ηλεκτροθεραπεία, Βασικές Αρχές, Broken Hills, Αθήνα
14. Robertson V., Ward A., Low J., Reed A. (2011). Ηλεκτροθεραπεία: Βασικές Αρχές κι Πρακτική Εφαρμογή, Παρισιάνος, Αθηνα.
15. Γιόκαρης Π. (2007). Κλινική Ηλεκτροθεραπεία (2 τόμοι). Ιατρικές εκδόσεις Λίτσας, Αθήνα.
16. Φραγκοράπτης Ε. (2002). Εφαρμοσμένη Ηλεκτροθεραπεία. Εκδόσεις Σάλτο, Θεσ/νίκη.

- *Suggested bibliography (English):*

1. Prentice WE. (2018) Therapeutic Modalities in Rehabilitation, McGraws-Hill Books.
2. Bellew JW., Michlovitz SL. (2016) Michlovitz's Modalities for Therapeutic Intervation, (Kindle Edition), Davis Company, Filadelphia.
3. Denegar C., (2015). Therapeutic Modalities for Musculoskeletal Injuries, Human Kinetics,
4. Knight KL., Draper DO. (2013) Therapeutic Modalities : The Art and Science, Lippincott Williams and Wilkins, Filadelphia, USA.
5. Matijaca A. (2009). Electro-Therapy in the Abstract for the Busy Practitioner. General Books.
6. Robertson V., Ward A., Low J., Reed A. (2006). Electrotherapy Explained: Principles and Practice. Butterworth – Heinemann.
7. Robinson A.J, Snyder-Mackler L. (2007). Clinical Electrophysiology: Electrotherapy and Electrophysiologic Testing. 3rd ed. Lippincott Williams & Wilkins.
8. Watson T. (2008). Electrotherapy: evidence-based practice.
9. Zimetbaum P.J., Josephson M.E. (2008). Practical Clinical Electrophysiology. 1st ed. Lippincott Williams & Wilkins, Philadelphia.

- *Related academic journals:*

5. Archives of Physical Medicine and Rehabilitation
6. Expert Review of Neurotherapeutics
7. Journal of Physiotherapy
8. Pain
9. Physiotherapy Research International
10. Acupuncture Electrotherapy Research

COURSE OUTLINES

5TH SEMESTER

COURSE OUTLINE

CLINICAL MUSCULOSKELETAL PHYSIOTHERAPY I

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_501**	**SEMESTER**	**5th**
COURSE TITLE	**CLINICAL MUSCULOSKELETAL PHYSIOTHERAPY I**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	2	**8**
TUTORIAL	1	
CLINICAL PRACTICE	6	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialized knowledge - skills development /Mandatory module
PREREQUISITE COURSES:	• **Physiology (1st)** • **Anatomy of the Musculoskeletal System (1st)** • **Pathophysiology-Basic Principles Of Internal Medicine (2nd)** • **Kinesiology of the Trunk (1st)** • **Kinesiology of the Extremities (2nd)** • **Kinesiotherapy (3rd)**
DEPENDED COURSES:	• **Clinical Practice in Physiotherapy (8th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	

	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this module the students will be able to:

- Have appropriate skills and the clinical competence to assess musculoskeletal disorders of the extremities and learn to utilize evidence-based knowledge and to develop critical thinking in order to choose the most appropriate physiotherapeutic methods, techniques and exercise programmes
- apply thorough, safe and appropriate (for each clinical situation) post-operative therapeutic programmes for musculoskeletal injuries and dysfunctions of the upper and lower limbs
- comprehend the structure of the healthcare service (infrastructure, management, role of each healthcare team member, etc.), where musculoskeletal patients are admitted
- obtain the clinical, cognitive, knowledge and reasoning skills and competence to approach any kind of orthopedic patient as well as enhance their communication skills in order to develop a satisfactory therapist-patient relationship

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas
Project planning and management
Respect for difference and multiculturalism
Respect for the natural environment
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking
……
Others…

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Team work
- Working in an international and an interdisciplinary environment

- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

The syllabus of the **theoretical part** of this module (lectures, tutorials etc.) focusses on the assessment and physiotherapeutic rehabilitation of the following clinical sections for the upper and lower extremities: a) degenerative conditions (i.e. osteoarthritis), b) rheumatological diseases (i.e. rheumatoid arthritis, fibromyalgia), c) various chronic syndromes and dysfunctions (i.e. frozen shoulder, overuse syndromes, patellofemoral pain etc.), d) pre-operative and postoperative situations (i.e. arthroplasties, arthoscopic repairs etc.), and e) chronic peripheral nerve problems (i.e. double-crush syndrome, pathomechanical problems of the peripheral nerves etc.).
Particular emphasis will be given to the postoperative rehabilitation of the aforementioned situations as well as the evidence-based application of the most appropriate physiotherapeutic methods, techniques and therapeutic exercise programmes for the patients' early and long-term rehabilitation (with respect to the stages of tissue healing).

The **clinical part** of this module focusses on the teaching and the practical application of clinical assessment methods and therapeutic exercises for the rehabilitation of the aforementioned conditions. Additionally, emphasis will be given on the application of evidence-based methods and techniques for the within-hospital, early and long-term post-operative physiotherapy of patients suffering from any of the above conditions. The main part of this clinical section will take place in pragmatic clinical situations, such as hospitals, rehabilitation centres, special clinics or nursing homes and will be under the supervision of the clinical tutor.

The areas covered in this module encompass the extremities (shoulder, elbow, wrist and hand complex for the upper limb and hip, knee, ankle and foot for the lower limb).

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Powerpoint presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc.
	Activity / ***Semester workload*** **Theoretical part (lectures & tutorials)** / **80**

<table>
<tr>
<td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td>
<td>
<table>
<tr><td>Lectures, seminars, clinical presentations, interactive teaching, project work</td><td>50</td></tr>
<tr><td>Independent (personal) study</td><td>30</td></tr>
<tr><td>Clinical part:
Clinical exercises, practical applications in small groups or pairs of volunteers and/or across patients in clinical environments (i.e. hospitals, nursing homes, rehabilitation centres, special schools etc.)</td><td>130</td></tr>
<tr><td>Course total</td><td>210</td></tr>
</table>
</td>
</tr>
<tr>
<td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td>
<td>Theoretical part: Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work.
The assessment of the theoretical part will take place at the end of each semester with written exams. The tutor has also the option to give provisional essays/reports throughout the semester, which will account for a percentage of the grade of the theoretical part.
For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student.

Clinical part: Oral /practical examination in each clinical exercise, tested on volunteers, whereas, the biggest part of the practical examination will take place on symptomatic volunteers and patients (clinical environment). Safety, clinical skill, effectiveness, knowledge, technique and overall performance will be evaluated.

Student performance and evaluation for the practical (clinical) part of the module will take place throughout the whole semester (weekly during the practical sessions in the clinical enviroment), as well as within set times at the end of the semester.

Language of evaluation: Greek & English (for Erasmus students)</td>
</tr>
</table>

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

(Greek)

12. Κοτζαηλίας Δ. (2008). Φυσικοθεραπεία σε κακώσεις του μυοσκελετικού συστήματος, University Press.
13. Λαμπίρης Η.Ε. (2003). Ορθοπαιδική και Τραυματολογία. Ιατρικές Εκδόσεις Πασχαλίδη, Αθήνα.
14. Hoppenfeld S. (2000) Ορθοπεδική Νευρολογία (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Παρισιάνου, Αθήνα.
15. Πουλής Ι. (2015), Φυσικοθεραπεία στις Μυοσκελετικές Παθήσεις, Ιατρικές Εκδόσεις Κωνσταντάρας, Αθήνα
16. Brotzman & Manske (2015). Ορθοπαιδική αποκατάσταση στην κλινική πράξη , Ιατρικές Εκδόσεις Κωνσταντάρας, Αθήνα.
17. Hoogenboom BJ, Voight ML, Prentice (2015), Φυσικοθεραπευτικές Παρεμβάσεις στο Μυοσκελετικό Σύστημα, Ιατρικές Εκδόσεις Κωνσταντάρας, Αθήνα.
18. Hougloum P. (2018), Κινησιοθεραπεία-Θεραπευτικές Ασκήσεις για Μυοσκελετικές Παθήσεις, Broken Hill, Αθήνα.
19. Kisner C., Colby L.A. Θεραπευτικές Ασκήσεις. Βασικές Αρχές και Τεχνικές, (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Σιώκη, Θεσσαλονίκη, 2003.
20. Miller Mark D. (2017) Review Ορθοπαιδικής, Ιατρικές Εκδόσεις Κωνσταντάρας, Αθήνα.

(English)

33. Braddom R. L. (2002). Practical guide to musculoskeletal disorders: diagnosis and rehabilitation. 2nd ed. Butterworth-Heinemann, Boston.
34. Cleland J. (2005). Orthopaedic clinical examination: an evidence-based approach for physical therapists. Icon Learning Systems, Carlstadt, N.J.
35. Hertling D. (2006). Management of common musculoskeletal disorders: physical therapy principles and methods. 4th ed. Lippincott Williams & Wilkins, Philadelphia.
36. Jones M.A., Rivett D.A. (2004). Clinical reasoning for manual therapists. Butterworth-Heinemann, Edinburgh.
37. Kesson M, Atkins E. (2005). Orthopaedic medicine: a practical approach. 2nd ed. Elsevier / Butterworth - Heinemann, Edinburgh.
38. Magee DJ, Zachazewskidolph JE, Kessler M. (2007), Scientific foundations and principles of practice in musculoskeletal rehabilitation, W.B. Saunders, Philadelphia.
39. Magee DJ. (2013), Orthopaedic Physical Assessment (Musculoskeletal Rehabilitation), 6th Edition, Saunders.
40. Malanga G.A., Nadler S. (2006). Musculoskeletal physical examination: an evidence - based approach. Elsevier Mosby, Philadelphia.
41. Petty N.J. (2006). Neuromusculoskeletal examination and assessment: a handbook for therapists. Elsevier / Churchill Livingstone, Edinburgh.
42. Refshauge K.M., Gass E.M. (2004). Musculoskeletal physiotherapy: clinical science and evidence -based practice. 2nd ed. Butterworth-Heinemann, Edinburgh.
43. Salter R.B. (1999). Textbook of disorders and injuries of the musculoskeletal system. 3rd ed. Lippincott Williams and Wilkins, Philadelphia.
44. Tidswell M E. (1998). Orthopaedic physiotherapy. Mosby, London.
45. Voight L.M., Hoogenbo B.J. (2007). Musculoskeletal interventions: techniques for therapeutic exercise. McGraw-Hill, Medical, New York.
46. Wiggins C.E. (2007). A concise guide to orthopaedic and musculoskeletal impairment ratings. Lippincott Williams & Wilkins, Philadelphia.

- Related academic journals:

- Musculoskeletal Science and Practice
- Journal of Orthopaedic and Sports Physical Therapy
- Journal of Manual and Manipulative Therapy
- Australian Journal of Physiotherapy
- Clinical Rehabilitation
- Physical Therapy
- Physiotherapy
- Archives of Physical Medicine and Rehabilitation
- Physiotherapy Theory and Practice
- Physiotherapy Research International

COURSE OUTLINE

PRINCIPLES OF NEUROLOGICAL PHYSIOTHERAPY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_502**	**SEMESTER**	**5th**
COURSE TITLE	**PRINCIPLES OF NEUROLOGICAL PHYSIOTHERAPY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	3	**5**
TUTORIALS	0	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialized Background /Mandatory module
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Practice in Physiotherapy (8^0)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes
The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will

acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this module the students will be able to:

- Understand the principles of the physiotherapy assessemnt and therapeutic interventions of neurological patients.
- Present an in depth knoweldge of the motor nervous system organization and the motor and somatosensory deficits presented following any disruption of the motor control hierarchy.
- Critically analyze and discuss the differential diagnosis between central and peripheral signs and symptoms
- Present the competency in understanding the fundamental principles governing neurological rehabilitation based on evidence-based approaches and new scientifically documented techniques
- Have the skills to recognize valid and reliable assessment tools for the differential diagnosis and assessment of motor, somatosensory and cognitive functions of the neurological patient and to apply them appropriatetly in order to deepen and promote their knowledge in the field of physiotherapeutic evaluation of a neurological patient
- Critically select the appropriate physiotherapy and rehabilitation programmes based on a clinical reasoning approach by setting realistic, achievable and patient-based targets

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Team work
- Working in an international and an interdisciplinary environment
- Production of new research ideas
- Respect for difference and multiculturalism

- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

In the **lectures**, the basic principles of intervention in neurological patients as well as scientific data on therapeutic approaches are taught. Clinical and laboratory evaluation tools for neurological patients and functional assessment scales are also presented. Injuries and syndromes of upper and lower motor neuron and clinical disorders of muscle tone, extrapyramidal syndromes are discussed in order the student to become aware of the theoretical frameworks for development of the most important therapeutic interventions such as Bobath, PNF, Brunstrom, motor control, virtual reality etc. Additionally, motor control training - promoting the acquisition of functional activities - skills, forced use, and in addition, the somatosensory - cognitive perceptual deficits are analyzed. In addition, case studies are presented and therapeutic interventions are proposed, based on the latest research data.

In the **tutorials**, basic clinical and laboratory tools for the assessment of neurological patients and selected techniques of the most important neurotherapeutic interventions such as Bobath, PNF and others are implemented. Examples from case studies are also analyzed by setting goals for therapeutic interventions.

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Powerpoint presentations, e-discussions via the e-class educational platform, videos etc.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Theoretical part (lectures & tutorials)</td><td>130</td></tr>
<tr><td>Lectures interactive teaching, project work</td><td>50</td></tr>
<tr><td>Independent -non-directed (personal) study</td><td>30</td></tr>
<tr><td>seminars, clinical presentations</td><td>20</td></tr>
<tr><td>problem-solving activities, exercises</td><td>30</td></tr>
<tr><td>Course total</td><td>130</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION</td><td>Theoretical part: Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving exercise, written assignments. The assessment of the</td></tr>
</table>

Description of the evaluation procedure *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	theoretical part will take place at the end of each semester with written exams. For **Erasmus students** the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will be provided by the tutor and agreed by the student. **Language of evaluation:** Greek & English (for Erasmus students)

5. ATTACHED BIBLIOGRAPHY

- *Suggested bibliography (Greek):*

17. Shumway-Cook & Woollacot (2011). Κινητικός έλεγχος από την έρευνα στη κλινική πράξη, Broken Hill, Αθήνα
18. Deborah Nichols-Larsen (2017) Νευρολογική Αποκατάσταση: Νευροεπιστήμη και Νευροπλαστικότητα στην Εφαρμοσμένη Φ/Θ, Κωνσταντάρας, ΑΘΗΝΑ
19. Deborah Nichols-Larsen (2017) Νευρολογική Αποκατάσταση, Κωνσταντάρας, ΑΘΗΝΑ
20. Candel, Schwartz, Jessel (2016) Βασικές Αρχές Νευροεπιστημών, Πασχαλίδης, ΑΘΗΝΑ
21. Russell (2010) Κλινική Εκτίμηση της Βλάβης Των Περιφερικών νεύρων, Κωνσταντάρας, ΑΘΗΝΑ
22. Kessler Martin (2014), Φυσικοθεραπευτικές Παρεμβάσεις σε Ασθενείς με Νευρολογικές Παθήσεις Κωνσταντάρας, ΑΘΗΝΑ

- *Suggested bibliography (English):*

1. Siegel A & Sapru H (2015) Essential Neuroscience 3rd ed. Lippincott Williams & Wilk Wilkins, Philadelphia.
2. Simpkins CA (2013) Neuroscience for Clinicians, Springer, New York
3. Waxman SG (2016) Clinical Neuroanatomy 28th ed. McGraw Hill Education
4. Carpenter R & Reddi B (2012) Neurophysiology, a conceptual approach 5th ed., Hodder Arnold. UK
5. Jones KJ (2011) Neurological assessment. A clinician's guide, Churchill Livingstone Elsevier, Endiburg
6. Snell RS (2010), Clinical Neuroanatomy 7th ed., Lippincott Williams & Wilkins, Philadelphia.

- *Related academic journals:*

11. Journal of Clinical Neuroscience
12. Nature Reviews Neuroscience
13. Neurorehabilitation and Neural Repair
14. Brain and Behavior

COURSE OUTLINE

MANIPULATIVE PHYSIOTHERAPY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_503**	**SEMESTER**	**5th**
COURSE TITLE	**MANIPULATIVE PHYSIOTHERAPY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	2	**5**
LABORATORY EXERSISE	1	
CLINICAL PRACTICE	1	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialized knowledge - skills development /Mandatory module
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Practice in Physiotherapy (8th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this module the students will be able to:

- obtain an evidence-based approach in manipulative therapy, to have the competence to differentiate between physiological and non-physiological joint motion and to develop their skills in clinical assessment and in tissue differentiation responsible for range of motion limitations and/or pain reproduction (i.e. neurogenic versus somatic referred pain)
- Obtain the clinical skills and overall competence to assess the quality of motion of the big extremity joints (hip, knee, shoulder, elbow etc.) and spinal joints (cervical, lumbar etc.) and obtain specialized skills in joint palpation
- obtain an evidence-based approach in manipulative therapy
- evaluate and understand the physiological (normal) from the non-physiological (abnormal) joint motion and develop clinical skills in detecting the tissues responsible for the restricted motion and/or pain (i.e. neurogenic versus somatic pain etc.)
- evaluate and comprehend the severity of each patient status (i.e. highly irritable patients, red flag signs etc.), and to have the appropriate knowledge and clinical competence in order to organize a safe treatment plan for each one
- set realistic treatment aims, choose appropriate and evidence-based manipulative therapy techniques for each clinical case and be able to follow through each case as well as alter treatment accordingly

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Working in an international and an interdisciplinary environment
- Production of new research ideas

- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

The syllabus of the **theoretical part** of this module focusses on a) the clinical distinction (differential diagnosis) between the passive (non-contractile) anatomical structures (i.e. joint capsule, ligaments, joints etc.) and the active (contractile) structures (muscles), which can all be responsible for joint limitation, b) basic principles of osteokinematics and arthrokinematics of the trunk and extremities, c) the comprehension of the basic types of joint mobilization and their contribution to the assessment of joint motion, d) the knowledge of basic rehabilitation principles for joint and periarticular dysfunctions by the use of manipulative therapy techniques and the comprehension of their mechanisms of action (i.e. neurophysiological, mechanical mechanisms etc.), e) the introduction of the most popular manipulative therapy approaches (i.e. Maitland, Kaltenborn etc.), and f) the assessment and treatment approach of neuromusculoskeletal problems which are due to peripheral nervous system mechanical behaviour (pathomechanics).

The syllabus for the **laboratory part** of the module focusses on a) the clinical differentiation between contractile and non-contractile structures of the human body, b) the clinical evaluation of passive joint movement (motion limitations, painful signs, 'end-feel' etc), c) the application of three basic types of joint manipulative therapy techniques; passive physiological mobilization, passive accessory mobilization and mobilization with movement at each body area for weither assessment or therapeutic purposes, d) the assessment of the mechanical behavior of the peripheral nerves, e) the selection of the most appropriate manipulative therapy techniques and their parameters for particular neuromusculoskeletal dysfunctions.

The **clinical section** of this module encompasses the aforementioned teaching material which is applied in pragmatic situations (i.e. people with painful musculoskeletal disorders /dysfunctions) and is constantly under the supervision of the clinical tutor.

The joints covered in this module for the extremities and trunk are: shoulder and elbow complex, wrist and hand, hip, knee, ankle, foot as well as cervical, thoracic and lumbar spine (in brief).

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education,*	Powerpoint presentations, e-discussions via the e-class educational platform, videos, use of anatomical models

communication with students	etc.

TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS

Activity	*Semester workload*
Theoretical part (lectures)	**80**
Lectures, seminars, clinical presentations, interactive teaching, project work	50
Independent (personal) study	30
Practical parts (Laboratory & Clinical):	**60**
Laboratory exercises, practical applications in small groups or pairs of students	30
Clinical exercises in small groups of people presenting with musculoskeletal dysfunctions	30
Course total	**140**

STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.

Theoretical part: Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report (depending on the tutor's decision at the beginning of the semester).
The assessment of the theoretical part will take place at the end of each semester with written exams. The tutor has also the option to give provisional essays/reports throughout the semester, which will account for 20% of the grade of the theoretical part.

For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student.

Laboratory & Clinical parts: Oral /practical examination in each laboratory (clinical) exercise, tested on models, healthy volunteers or symptomatic volunteers. The safety, skill, effectiveness, knowledge, technique and overall performance will be evaluated.

Student performance and evaluation for the **practical (laboratory & clinical) part** of the module will take place throughout the whole semester (weekly during the practicals), as well as within set times at the end of the semester and maybe in the middle of it (tutor will inform students early on this).

	Language of evaluation: Greek & English (for Erasmus students)

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

(Greek)

1. Κιτσούλης Γ. (1999). Manual Therapy. Εξέταση-Αξιολόγηση του Μυοσκελετικού Συστήματος, Ιωάννινα.
2. Πετρούτσος Σ. (2004). Δια των χειρών θεραπεία της σπονδυλικής στήλης και των πλευρών. Επιστημονικές εκδόσεις Παρισιάνου, Αθήνα.
3. Brotzman & Wilk (2011). Ορθοπαιδική αποκατάσταση στην κλινική πράξη , Ιατρικές Εκδόσεις Κωνσταντάρας, Αθήνα.
4. Kisner C., Colby L.A. Θεραπευτικές Ασκήσεις. Βασικές Αρχές και Τεχνικές, (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Σιώκη, Θεσσαλονίκη, 2003.
5. Mulligan B.R. (2006). Θεραπευτικοί Χειρισμοί 'Nags', 'Snags', 'MWM', (Μετάφραση Αγγλικής Έκδοσης), De Novo, Θεσσαλονίκη.
6. Schomacher J. (2011) Ειδικές Τεχνικές Κινητοποίησης στο Μυοσκελετικό Σύστημα. Αξιολόγηση και Αντιμετώπιση», Ιατρικές Εκδόσεις Κωνσταντάρας, Αθήνα.

(English)

7. Aad van der El. (2010) Orthopaedic manual therapy diagnosis: spine and temporomandibular joints. Jones and Bartlett publishers, Boston.
8. Boyling J.D., Palastanga N. (1994). Grieve's Modern Manual Therapy. 2nd ed. Churchill Livingstone, London.
9. Butler, D.S. (2000). The Sensitive Nervous System. Noigroup publications, Australia.
10. Edmond S. (1992). Manipulation & Mobilization. Extremity & Spinal Techniques. Mosby, USA.
11. Greenman PE (2003). Principles of manual medicine. 3rd ed. Lippincott Williams & Wilkins, Philadelphia.
12. Jones M.A., Rivett D.A. (2004). Clinical reasoning for manual therapists. Butterworth-Heinemann, Edinburgh.
13. Kaltenborn F.M. (1970). Mobilisation of the Spinal Column. New Zealand University Press, Wellington.
14. Kaltenborn F.M., Evjenth O., Kaltenborn T.B., Morgan D., Vollowitz E. (1999). Manual Mobilization of the joints. The extremities. Olaf Norlis Bokhandel, Oslo.
15. Kaltenborn F.M., Evjenth O., Kaltenborn T.B., Vollowitz E. (1993). The spine. Basic evaluation and mobilization techniques. Olaf Norlis Bokhandel, Oslo.
16. Kisner C., Colby L.A. (2007). Therapeutic Exercise. Foundations and Techniques. 5th ed. F. A. Davis Company, Philadelphia.
17. Maitland et al. (2001). Maitland's Vertebral Manipulation. 6th ed. Butterworth-Heinmann, Oxford.
18. Makofsky HW. (2003) Spinal manual therapy: an introduction to soft tissue mobilization, spinal manipulation, therapeutic and home exercises. Slack, New Jersey.
19. Mulligan B.R. (1995). Manual Therapy "Nags", "Snags", "MWM" etc. Plane View Services Ltd. 3rd Ed. New Zealand.
20. Olson KA. (2009), Manual physical therapy of the spine, Saunders, Missouri.
21. Petty N.J. (2006). Neuromusculoskeletal examination and assessment: a handbook for therapists. Elsevier / Churchill Livingstone, Edinburgh.
22. Shacklock M.O. (2005). Clinical neurodynamics: a new system of musculoskeletal treatment. Elsevier Butterworth-Heinemann, Edinburgh.

- Related academic journals:

- Musculoskeletal Science and Practice
- Journal of Manual and Manipulative Therapy
- Physiotherapy
- Journal of Manipulative and Physiological Therapeutics
- Chiropractic and Manual Therapies
- Journal of Chiropractic Medicine
- Physical Therapy

COURSE OUTLINE

PATHOKINESIOLOGY

1. GENERAL

SCHOOL	**SCHOOL OF HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_504**	**SEMESTER**	**5th**
COURSE TITLE	**PATHOKINESIOLOGY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	3	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Special background
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*

- *Guidelines for writing Learning Outcomes*

After the completion of the course, students will:

- know the basics of neurophysiology of human motion
- be aware of the possible causes for common deviations from normal motion
- have the skills to recognise the pathokinesiological consequences of a local deficit to the total bio-kinetic chain
- be able to comprehend and explain the key causative factors for pathokinematics in each anatomic structure
- be competent in assessing the importance of kinematic abnormalities
- have the ability and the skills to select the appropiate method for treating pathokinesiology and assess the margin for functional improvement

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas
Project planning and management
Respect for difference and multiculturalism
Respect for the natural environment
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking
Others…
…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Adapting to new situations
- Decision-making
- Working independently
- Team work
- Production of free, creative and inductive thinking
- Production of new research ideas

3. SYLLABUS

The syllabus consists of the neuromechanical basis of human kinesiology, of analysis of muscle synergies for common activities like throwing, grasping, climbing, walking, running and other functional activities. In addition, characteristic patterns of pathological motion will be analysed in the areas of musculoskeletal pathology and neural injuries & diseases. The kinematic deviations post-surgically will be also addressed, as well as the pathokinesiology resulting from tendinous, joint, bony or muscle acute and chronic conditions.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face

USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	▪ Power point presentations ▪ Use of artificial cross-sections ▪ Video analysis
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Assessment methods: **Theoretical part:** Multiple choice, short-answer questions, practical examples analysis, essays (potential assessment methods decided by the examiner) **Practical part:** Oral examination on examples of applied motions

Activity	*Semester Workload (ECTS)*
Theoretical part (Lectures):	**110**
Lectures, interactive training	50
Seminars, analysis of clinical cases	20
Non-directed study	40
Total (25-30 hours per ECTS unit)	**110**

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

1. Kinesiology: The Mechanics and Pathomechanics of Human Movement. C.A.Oatis. LWW; Second, North American edition 2008
2. Kinesiology of the Musculoskeletal System : Foundations for Rehabilitation 3rd revised ed. D.A. Neumann. Mosby 2016
3. Kinesiology. Application to pathological motion. G. Soderberg, Lippincott Williams & Wilkins. 1996
4. Applied Kinesiology, Revised Edition: A Training Manual and Reference, R. Frost, North Atlantic Books, Berkeley, California 2013

- Related academic journals:

23. Journal of Human Kinetics
24. International Journal of Fundamental and Applied Kinesiology
25. Journal of Electromyography and Kinesiology
26. Clinical Kinesiology

COURSE OUTLINES

6TH SEMESTER

COURSE OUTLINE

CLINICAL MUSCULOSKELETAL PHYSIOTHERAPY II

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_601**	**SEMESTER**	**6th**
COURSE TITLE	**CLINICAL MUSCULOSKELETAL PHYSIOTHERAPY II**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	2	**9**
TUTORIAL	1	
CLINICAL PARCTICE	6	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialized knowledge - skills development /Mandatory module
PREREQUISITE COURSES:	• **Physiology (1st)** • **Anatomy of the Musculoskeletal System (1st)** • **Pathophysiology-Basic Principles Of Internal Medicine (2nd)** • **Kinesiology of the Trunk (1st)** • **Kinesiology of the Extremities (2nd)**
DEPENDED COURSES:	• **Clinical Practice in Physiotherapy (8th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this module the students will be able to:

- Have the appropriate competencies and clinical skills in order to assess musculoskeletal disorders of the spinal column and learn to utilize evidence-based knowledge and to develop critical thinking in order to choose the most appropriate physiotherapeutic methods, techniques and exercise programmes
- apply thorough, safe and appropriate (for each clinical situation) post-operative therapeutic programmes for musculoskeletal injuries and dysfunctions of the spine and pelvis
- develop the skills and competences to assess human posture, comprehend its weaknesses in each clinical case and effectively contribute to postural re-education
- obtain the knowledge and the clinical skills for approaching any kind of spinal orthopedic patient (referred for physiotherapy) as well as develop further their communication skills, aiming for an effective therapist-patient relationship

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas
Project planning and management
Respect for difference and multiculturalism
Respect for the natural environment
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking
Others….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Team work
- Working in an international and an interdisciplinary environment
- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

The syllabus of the **theoretical part** of this module (lectures, tutorials etc.) focusses on the assessment and physiotherapeutic rehabilitation of the following clinical thematic sections for the spine and pelvis: a) degenerative conditions (i.e. spinal stenosis, spondyloarthopathies), b) rheumatological diseases (i.e. ankylosing spondylitis), c) various chronic syndromes and dysfunctions (i.e. low back pain/ sciatica of mechanical origin, spondylolysis-spondylolisthesis, cervico-branchial syndrome etc.), d) pre-operative and postoperative situations (i.e. discectomies, spinal fusions, laminectomies, arthoscopic repairs etc.), and e) postural problems (i.e. scoliosis).
Particular emphasis will be given to the postoperative rehabilitation of the aforementioned situations as well as the evidence-based application of the most appropriate physiotherapeutic methods, techniques and therapeutic exercise programmes for the patients' early and long-term rehabilitation (with respect to the stages of tissue healing).

The **clinical part** of this module focusses on the teaching and the practical application of clinical assessment methods and therapeutic exercises for the rehabilitation of the aforementioned conditions. Additionally, emphasis will be given on the application of evidence-based methods and techniques for the within-hospital, early and long-term post-operative physiotherapy of patients suffering from any of the above spinal conditions. The main part of this clinical section will take place in pragmatic clinical situations, such as hospitals, rehabilitation centres, special clinics or nursing homes and will be under the supervision of the clinical tutor.

The areas covered in this module encompass the spine (cervical, thoracic and lumbar spine), the pelvic girdle (sacrum, sacroiliac joints, pubic symphysis) and the temporomandibular joint (brief reference).

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Powerpoint presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc.</td></tr>
<tr><td>TEACHING METHODS
The manner and methods of teaching are described in detail.</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Theoretical part (lectures & tutorials)</td><td>80</td></tr>
<tr><td>Lectures, seminars, clinical presentations, interactive</td><td>50</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><td rowspan="4">Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>teaching, project work</td><td></td></tr>
<tr><td>Independent (personal) study</td><td>30</td></tr>
<tr><td>Clinical part:
Clinical exercises, practical applications in small groups or pairs of volunteers and/or across patients in clinical environments (i.e. hospitals, nursing homes, rehabilitation centres, special schools etc.)</td><td>130</td></tr>
<tr><td>Course total</td><td>210</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td colspan="2">Theoretical part: Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work.
The assessment of the theoretical part will take place at the end of each semester with written exams. At the discretion of the tutor, it may be possible to assign optional work during the course of the semester to be taken into account in the final score.

For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student.

Clinical part: Oral /practical examination in each clinical exercise, tested on volunteers, whereas, the biggest part of the practical examination will take place on symptomatic volunteers and patients (clinical environment). Safety, clinical skill, effectiveness, knowledge, technique and overall performance will be evaluated.

Student performance and evaluation for the practical (clinical) part of the module will take place throughout the whole semester (weekly during the practical sessions in the clinical enviroment), as well as within set times at the end of the semester.

Language of evaluation: Greek & English (for Erasmus students)</td></tr>
</table>

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

(Greek)

21. Κοτζαηλίας Δ. (2008). Φυσικοθεραπεία σε παθήσεις του μυοσκελετικού συστήματος, University Press.
22. Λαμπίρης Η.Ε. (2003). Ορθοπαιδική και Τραυματολογία. Ιατρικές Εκδόσεις Πασχαλίδη, Αθήνα.
23. Hoppenfeld S. (2000) Ορθοπεδική Νευρολογία (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Παρισιάνου, Αθήνα.
24. Brotzman & Manske (2015). Ορθοπαιδική αποκατάσταση στην κλινική πράξη , Ιατρικές Εκδόσεις Κωνσταντάρας, Αθήνα.
25. Hoogenboom BJ, Voight ML, Prentice (2015), Φυσικοθεραπευτικές Παρεμβάσεις στο Μυοσκελετικό Σύστημα, Ιατρικές Εκδόσεις Κωνσταντάρας, Αθήνα.
26. Hoppenfeld S. (2008). Φυσική εξέταση της σπονδυλικής στήλης και των άκρων (Μετάφραση αγγλικής έκδοσης -Physical examination of the spine and extremities), Ιατρικές Εκδόσεις Παρισιάνου, Αθήνα.
27. Hougloum P. (2018), Κινησιοθεραπεία-Θεραπευτικές Ασκήσεις για Μυοσκελετικές Παθήσεις, Broken Hill, Αθήνα.
28. Kisner C., Colby L.A. Θεραπευτικές Ασκήσεις. Βασικές Αρχές και Τεχνικές, (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Σιώκη, Θεσσαλονίκη, 2003.
29. Miller Mark D. (2017) Review Ορθοπαιδικής, Ιατρικές Εκδόσεις Κωνσταντάρας, Αθήνα.
30. Todd JA. (2006). Κλινική εξέταση της σπονδυλικής στήλης (Μετάφραση αγγλικής έκδοσης -Physical examination of the spine), Εκδόσεις Πασχαλίδης Π.Χ, Αθήνα.

(English)

47. Bogduk N. (2005), Clinical anatomy of the lumbar spine and sacrum, Churchill Livingstone, Edinburgh.
48. Braddom R. L. (2002). Practical guide to musculoskeletal disorders: diagnosis and rehabilitation. 2nd ed. Butterworth-Heinemann, Boston.
49. Cleland J. (2005). Orthopaedic clinical examination: an evidence-based approach for physical therapists. Icon Learning Systems, Carlstadt, N.J.
50. Hertling D. (2006). Management of common musculoskeletal disorders: physical therapy principles and methods. 4th ed. Lippincott Williams & Wilkins, Philadelphia.
51. El, Aad van der (2010). Orthopaedic manual therapy diagnosis: spine and temporomandibular joints, Jones and Bartlett publishers, Boston.
52. Jones M.A., Rivett D.A. (2004). Clinical reasoning for manual therapists. Butterworth-Heinemann, Edinburgh.
53. Kesson M, Atkins E. (2005). Orthopaedic medicine: a practical approach. 2nd ed. Elsevier / Butterworth - Heinemann, Edinburgh.
54. Liebenson C. (2007). Rehabilitation of the spine: a practitioner's manual Lippincott Williams & Wilkins, Philadelphia.
55. Magee DJ, Zachazewskidolph JE, Kessler M. (2007), Scientific foundations and principles of practice in musculoskeletal rehabilitation, W.B. Saunders, Philadelphia.
56. Magee DJ. (2013), Orthopaedic Physical Assessment (Musculoskeletal Rehabilitation), 6th Edition, Saunders.
57. Malanga G.A., Nadler S. (2006). Musculoskeletal physical examination: an evidence - based approach. Elsevier Mosby, Philadelphia.
58. McKenzie R, May S. (2006). The cervical & thoracic spine: mechanical diagnosis & therapy, Spinal Publications New Zealand.
59. Petty N.J. (2006). Neuromusculoskeletal examination and assessment: a handbook for therapists. Elsevier / Churchill Livingstone, Edinburgh.
60. Refshauge K.M., Gass E.M. (2004). Musculoskeletal physiotherapy: clinical science and evidence -based practice. 2nd ed. Butterworth-Heinemann, Edinburgh.
61. Salter R.B. (1999). Textbook of disorders and injuries of the musculoskeletal system. 3rd ed. Lippincott Williams and Wilkins, Philadelphia.
62. Tidswell M E. (1998). Orthopaedic physiotherapy. Mosby, London.
63. Voight L.M., Hoogenbo B.J. (2007). Musculoskeletal interventions: techniques for therapeutic exercise. McGraw-Hill, Medical, New York.
64. Wiggins C.E. (2007). A concise guide to orthopaedic and musculoskeletal impairment ratings.

Lippincott Williams & Wilkins, Philadelphia.

- Related academic journals:

- Musculoskeletal Science and Practice
- Journal of Orthopaedic and Sports Physical Therapy
- Journal of Manual and Manipulative Therapy
- Australian Journal of Physiotherapy
- Clinical Rehabilitation
- Physical Therapy
- Physiotherapy
- Physiotherapy Theory and Practice
- Physiotherapy Research International
- Spine
- European Spine Journal
- Journal of Back & Musculoskeletal Rehabilitation

COURSE OUTLINE

CLINICAL PAEDIATRIC PHYSIOTHERAPY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_602**	**SEMESTER**	**6th**
COURSE TITLE	**CLINICAL PAEDIATRIC PHYSIOTHERAPY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	2	**9**
TUTORIALS	1	
CLINIC PRACTICE	6	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised knowledge-skills development
PREREQUISITE COURSES:	• **Kinesiology of the Trunk (1st)** • **Kinesiology of the Extremities (2nd)** • **Anatomy of The Nervous System and Organs (1st)** • **Neurology (3rd)**
DEPENDED COURSES:	• **Clinical Practice in Physiotherapy (8th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek, English for Erasmus students
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes
The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will

acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the completion of the course the students will be able to:

- know in depth the main disorders due to lesions of the Central and Peripheral Nervous System (CNS and PNS) of babies and children as well as know the sensory-motor disabilities of these disorders
- present the specific knowledge of the main disorders due to musculoskeletal lesions. e.g. juvenile rheumatoid arthritis
- assess the various sensory, motor and functional impairments or disabilities of babies and children with lesions of the CNS and PNS and of the musculoskeletal system
- know in depth the typical development of neonates, babies and children
- select and apply reliable and valid outcome measures for babies and children with lesions of the CNS and PNS and of the musculoskeletal system
- present the competency in analysing the main therapeutic approaches used for children
- apply the skills required in order to set realistic therapeutic aims for children with motor disabilities due to lesions of the nervous system and of the musculoskeletal system
- apply exercises based on the main approaches used for babies/children
- apply appropriate exercises safely
- recognize that each therapeutic programme should be individualized for a particular baby/child

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas Project planning and management
Respect for difference and multiculturalism
Respect for the natural environment
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking
……Others…

Adapting to new situations
Decision-making
Working independently
Team work
Working in an interdisciplinary environment
Project planning and management
Respect for difference and multiculturalism
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking

3. SYLLABUS

Lecture:

Students study the development of the brain during the embryo life, factors that affect the normal development of the brain and the typical non-typical development of the child. Presentations of gross motor, quality of posture-movement and daily living activities outcome measures also takes place. Students also study about high risk neonates, the causes of cerebral palsy (CP), and the general characteristics of CP. In particular, description in depth of the clinical features and therapeutic aims for hemiplegic, diplegic, tetraplegic, athetoid and ataxic CP. Also, description in depth of the clinical features and therapeutic aims for (infant) brachial plexus lesion, spina bifida, muscular dystrophy, and Down syndrome, while neuromuscular scoliosis, torticollis and juvenile rheumatoid arthritis are separately studied. Students also study in depth the various evidence-based physiotherapy approaches used for babies/children with sensory-motor disabilities (principles and examples of exercises); especially, Bobath (NDT), Vojta, Conductive education, Motor learning, Sensory integration, and Constrained-induced approaches. Students also study in depth the causes/consequences of hip dislocation, and the management of musculoskeletal deformities (e.g. positioning, standing frames, and splints). Management of spasticity is studied in depth as well as the various types of surgeries due to lower limb muscle shortening/imbalance in CP. Hand function is also studied as well as the role of vision in movement. Finally, case studies are discussed with students.

In the practical part (clinic):
Observation of typical motor development from 1st to 12th month, of righting and equilibrium reactions, and of primary reflexes. Assessment using the Gross Motor Function Measure, assessment of muscle tone, and quality of movement. Study of particular posture and motor patterns and activity limitations of children with hemiplegic, diplegic, tetraplegic, athetoid and ataxic CP as well as of children with infant brachial plexus lesion, spina bifida, muscular dystrophy and Down syndrome. Appropriate exercise programmes are practiced for the afore-mentioned motor disorders based primarily in Bobath (NeuroDevelopmental -NDT) approach. Programs are also developed/practiced based on Motor Learning. Finally, study of the neuromuscular scoliosis, torticollis and juvenile rheumatoid arthritis takes place and exercises are practiced for these problems.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	• Discussions in the e-class platform • Videos • Multimedia
TEACHING METHODS *The manner and methods of teaching are described in detail.*	

Activity	*Semester workload*
Theoretical part (Lectures-Tutorials):	**80**
Lectures, Seminars/case	50

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc. *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	studies, interactive teaching, project)	
	Non-guided study	30
	Laboratory/Clinical part:	**130**
	Workshops, clinical practice with patients, practical applications of exercises in small groups of students, assessment of a clinical case.	The individual allocation of the workload by activity is determined by the responsible teacher
	Course Total (25 hours of workload per credit)	**210**
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	**Evaluation:** **Lecture part:** Multiple choice questions, Questions of short answers, Problem solving, Questions to elaborate, Written assignment (potential ways of assessment). Assessment of theory takes place at the end of the semester and in September during the 2nd exams period, using written examination. If the teacher wishes voluntary assignments can be given during the semester and which are taken into account at the student's final grade. For **Erasmus students** the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will be provided by the tutor and agreed by the student. **Clinical part:** this evaluation takes place during the whole period of the clinic in the various clinical/ therapy places. A significant amount of each student's performance (grade) is based on how he selects the most appropriate exercises and how well he/she can perform the exercises to a child. The student should complete successfully the theoretical and practical (clinical) part of the module in order to accredited the grade for the module. Language of assessment: Greek, English for Erasmus students	

5. ATTACHED BIBLIOGRAPHY

- *Suggested bibliography:*

Greek bibliography:

1. Levitt S. (2002) Θεραπεία της Εγκεφαλικής Παράλυσης και της Κινητικής Καθυστέρησης. (Μετάφραση Αγγλικής Έκδοσης), Επιστημονικές Εκδόσεις Παρισιάνου, Αθήνα. **(Εύδοξος)**
2. Scrutton D, Damiano D, Mayston M. (2009) Αντιμετώπιση των κινητικών διαταραχών στα παιδιά με εγκεφαλική παράλυση. Επιστημονικές Εκδόσεις Παρισιάνου, Αθήνα

English bibliography:

3. Campell S., Palisano J.R., Vander W.D. Physical therapy for children. 4th Ed, 2012; St Louis,MI: Elsevier Saunders.
4. Dodd K, Imms K, Taylor N. (2010) Physiotherapy and Occupational Therapy for people with Cerebral Palsy: A Problem-Based approach to assessment and management. Mac Keith Press, London
5. Tecklin J (2014) Pediatric Physical Therapy. 5th edition, LWW, Philadelphia
6. Carr J, Sheperd R. (1999). **Physiotherapy in paediatrics**. 3rd ed. Butterworth Heinemann, Oxford.
7. Heidi A., Ilona A.R., Jutta S., Marjukka M., Antti M. (2008). Effectiveness of physical therapy interventions for children with cerebral palsy: A systematic review. *BMC Pediatrics* 2008, 8:1
8. Bly L. (1994) Motor skills Acquisition in the First Year. Therapy Skill Builders, San Antonio, Texas
9. https://pediatricapta.org/fact-sheets/

- *Related academic journals:*

Developmental Medicine and Child Neurology
Research in Developmental Disabilities
Pediatric Physical Therapy
Pediatric Neurorehabilitation
Pediatrics
Journal of Physiotherapy
Pediatric Rheumatology
Gait and Posture

COURSE OUTLINE

THERAPEUTIC EXERCISE FOR MUSCULOSKELETAL PATHOLOGIES -INJURIES

1. GENERAL

SCHOOL	**SCHOOL OF HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_603**	**SEMESTER**	**6th**
COURSE TITLE	**THERAPEUTIC EXERCISE FOR MUSCULOSKELETAL PATHOLOGIES - INJURIES**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	3	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised knowledge, Skills development
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Practice in Physiotherapy (8th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK & ENGLISH
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*

- *Guidelines for writing Learning Outcomes*

After the end of this module the students will:

- be able to understand the mechanical loads distributed and applied to the musculoskeletal system of the human body during the performance of various activities and to interpret their contribution to the development and development of pathological adaptations
- present the specific knowledge on the types, characteristics, the equipment used and the progression techniques of the therapeutic exercises
- have the skills to recognize the aetiological factors of musculoskeletal injuries and apply evidence based practice for their prevention
- have gained the knowledge of the evidence-based techniques of therapeutic exercise for rehabilitating and improving the basic functional somatic abilities (strength, endurance, power, range of motion, neuromuscular control, proprioception, etc.)
- Be aware of the fundamental principles of musculoskeletal injuries rehabilitation and be able to choose the most appropriate therapeutical exercise techniques based on novel literature.
- Have the competency to design evidence-based therapeutic exercise programs that are safe and appropriate for any musculoskeletal injury of the trunk and extremities.
- Know the evidence-based techniques of therapeutic exercise for the recovery of specialized injuries and pathologies in specific population groups (young and old people, group exercise, exercises in pelvic floor diseases, etc.)

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Project planning and management
Production of free, creative and inductive thinking

3. SYLLABUS

The course curriculum focuses on learning the basic techniques of therapeutic exercise in pathologies/diseases and injuries of the musculoskeletal system, paying particular attention to the study of (a) evidence-based methods of joint mobilization (passive-acting) and b) evidence-based techniques and methods of rehabilitation of muscular functional ability (strength, endurance, flexibility, propriety) in major musculoskeletal injuries and pathologies.

More specifically, the course content includes the following topics:

1. Basic Principles of Therapeutic Exercise: Principles, terms, usefulness, forms of healing exercise, techniques, equipment, progressive therapeutic exercises. integration into rehabilitation programs, documentation.

2. Therapeutic exercise for the rehabilitation or enhancement of joint mobility: basic terms, forms of therapeutic exercise, therapeutic exercise equipment, progressive exercises, evidence-based therapeutic exercise programs.

3. Therapeutic exercise for the rehabilitation or enhancement of the muscle strength, endurance and muscle power production: basic terms, forms of healing exercise, therapeutic exercise equipment, progressive exercises, evidence- based therapeutic exercise programs.

4. Therapeutic exercise for the rehabilitation or enhancement of the tissue elasticity-flexibility: basic terms, forms and types of therapeutic exercise, progressive exercises, therapeutic exercise equipment, evidence-based therapeutic exercise programs.

5. Therapeutic exercise for the rehabilitation or enhancement of the joints neuromuscular control-proprioception: basic terms, forms and types of therapeutic exercise, progressive exercises, therapeutic exercise equipment, evidence-based therapeutic exercise programs.

6. Therapeutic exercise in cervical spinal cord injuries: therapeutic exercises for the mobility of cervical spine, stretching, strengthening techniques and neuromuscular control exercises of the cervical spine, evidence-based exercises programs for cervical dysfunctions and pathologies.

7. Therapeutic exercise in thoracic spine dysfunctions and injuries: therapeutic exercises of thoracic mobility, stretching, strengthening and improvement of the thoracic spine neuromuscular control, evidence-based exercises programs for thoracic pathologies and injuries

8. Therapeutic exercise in lumbar spine dysfunctions and injuries: therapeutic exercises of lumbar mobility, stretching, strengthening and improvement of the lumbar spine neuromuscular control, evidence-based exercises programs for lumbar pathologies and injuries

9. Therapeutic exercise in shoulder dysfunctions and injuries: therapeutic exercises of shoulder mobility, stretching, strengthening and improvement of the shoulder neuromuscular control, evidence-based exercises programs for shoulder pathologies and

injuries

10. Therapeutic exercise in elbow-hand dysfunctions and injuries: elbow-hand mobility therapeutic exercises, stretching, strengthening and improvement of the elbow-hand neuromuscular control, evidence-based exercises programs for elbow-hand pathologies and injuries

11. Therapeutic exercise in hip-knee dysfunctions and injuries: therapeutic exercises of hip-knee mobility, stretching, strengthening and improvement of the hip-knee neuromuscular control, evidence-based exercises programs for hip-knee pathologies and injuries

11. Therapeutic exercise in ankle dysfunctions and injuries: therapeutic exercises of ankle mobility, stretching, strengthening and improvement of the ankleneuromuscular control, evidence-based exercises programs for anklepathologies and injuries

13. Specialized therapeutic exercise for special populations and pathologies: pelvic floor exercises, children and elderly people, group therapeutic exercise programs, aquatic exercises, therapeutic exercise in chronic diseases.

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to Face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Power point presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc, practical training applications.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures</td><td>120</td></tr>
<tr><td>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, interactive teaching, educational visits.</td><td>70</td></tr>
<tr><td>Seminars/clinical cases presentation</td><td>30</td></tr>
<tr><td>Project, essay writing</td><td>20</td></tr>
<tr><td>Course total</td><td>120</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple</td><td>Assessment methods

Theoretical part: Multiple Choice evaluation questions, Short Response Questions, Analysis-Presentation of Clinical Events - Practical Problems, Written Work (potential assessment methods selected by the instructor).

Assessment Language: Greek and English for Erasmus</td></tr>
</table>

choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	students

5. ATTACHED BIBLIOGRAPHY

- *Suggested bibliography:*

in Greek:

1.Bryan.Εγχειρίδιο θεραπευτικής άσκησης. Broken Hill Publishers

2.Hougloum Peggy (2018) .Κινησιοθεραπεία-Θεραπευτικές Ασκήσεις για Μυοσκελετικές Παθήσεις. Broken Hill Publishers.

3.Brent BrotzmanandKevinE. Wilk. Κλινική Ορθοπεδική Αποκατάσταση (2014). Εκδόσεις Κωνσταντάρας

4. Αθανασόπουλος (1989). Κινησιοθεραπεία. Αθήνα

5. KisnerC, ColbyLA, (2003). Θεραπευτικές ασκήσεις. Βασικές αρχές και τεχνικές. Εκδ. Σιώκης

6. Κοτζαηλίας Δ (2008). Φυσικοθεραπεία σε κακώσεις του μυοσκελετικού συστήματος, UniversityStudioPress

In English:

7. DavidJ. Magee, JamesE. Zachazewski, WilliamS. Quillen (2008). Scientific Foundations and Principles of Practice in Musculoskeletal Rehabilitation (Musculoskeletal Rehabilitation Series. Saunders.

8. Robert E. McAtee (1999). Facilitated stretching, Human Kinetics.

9. Refshauge K, Gass E (2004). Musculoskeletal physiotherapy, Elsevier.

10. David H. Perrin (1993). Isokinetic exercise and assessment, Human Kinetics.

11.Ellenbecker TS, Davies GJ (2001).Closed kinetic chain exercises: a comprehensive guide to multiple joint exercise, Human Kinetics.

12. Radcliffe J, Farentinos J (2007). High powered plyometrics.

13. White M. Water exercise (1995). Human Kinetics.

- *Related academic journals:*

Journal of Sports Physiotherapy

British Journal of Sports Medicine

American Journal of Sports Medicine

Journal of Science and medicine in Sports

Journal of Sports Physical therapy

COURSE OUTLINE

PHYSIOTHERAPY FOR SPECIAL POPULATIONS

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_604**	**SEMESTER**	**6th**
COURSE TITLE	**PHYSIOTHERAPY FOR SPECIAL POPULATIONS**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	3	**4**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialized knowledge - skills development /Mandatory module
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Practice in Physiotherapy (8th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this module the students will:

- have the knowledge and be able to develop their skills and competence on applying the most appropriate physiotherapy approach for the most common problems across special populations (such as children with congenital /hereditary disorders, juvenile chronic arthritis youngsters, diabetics, obesity, pregnancy-related problems, women's health problems, burns, people with psychiatric disorders, eldely people etc.)
- have the competency to develop their clinical reasoning skills and their competence for scheduling and delivering a carefully thought and evidence-based rehabilitation programme, which is predominantly safe and appropriate for each special case across the special population spectrum
- have the knowledge, ability and the skill to organize and apply appropriate and specific therapeutic exercise group programmes for each special group

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

……

Others…

…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Adapting to new situations
- Working independently

- Working in an international and an interdisciplinary environment
- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking
- Team work

3. SYLLABUS

The syllabus of the **theoretical part** of this module focusses on the comprehension of the physiotherapy approach which is recommended and evidence-based for the most common problems across special populations. The special population spectrum includes children with congenital /hereditary disorders or mental disability, diabetic people, pregnant women, women with gynecological problems, obese people, amputated populations, patients with burns, children with juvenile chronic arthritis, women's health problems, people with psychiatric disorders, elderly people, blind, deaf etc.

Emphasis will be given into the comprehension of the physical, functional and psychological problems of each special group, and the subsequent approach that should be taken by the physiotherapist. Selected evidence-based treatment methods will be provided for short-,long-term and for the enhancement of their quality of life. Emphasis will also be given on the organization and planning of therapeutic group exercise programmes, which are proven to be effective in certain population samples.

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Powerpoint presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures, seminars, clinical presentations, interactive teaching, project work, tutorials</td><td>40</td></tr>
<tr><td>Educational visits, projects</td><td>40</td></tr>
<tr><td>Independent study</td><td>40</td></tr>
<tr><td>Course total</td><td>120</td></tr>
</table>
</td></tr>
</table>

activity are given as well as the hours of non-directed study according to the principles of the ECTS	
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	**Theoretical part:** Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work. At the discretion of the tutor, it may be possible to assign optional work during the course of the semester to be taken into account in the final score (i.e. 20%). The assessment of the theoretical part will take place at the end of each semester with written exams. For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student. **Language of evaluation:** Greek & English (for Erasmus students)

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

(Greek)

1. American College of Sports Medicine (2015). ACSM's Αξιολόγηση και Σχεδιασμός Προγραμμάτων Άσκησης, Broken Hill, Κύπρος.
2. Λαμπίρης Η.Ε. (2003). Ορθοπαιδική και Τραυματιολογία. Ιατρικές Εκδόσεις Πασχαλίδη, Αθήνα.
3. Χριστοδούλου Γ.Ν., Κονταξάκης Β.Π. (2000). Η Τρίτη ηλικία. Εκδ. Βήτα, Αθήνα.
4. Dustin JL, Moore GE. (2005). ACSM. Άσκηση σε χρόνιες παθήσεις και αναπηρίες, Ιατρικές Εκδόσεις Πασχαλίδης, Αθήνα.
5. Kisner C., Colby L.A. (2003). Θεραπευτικές Ασκήσεις. Βασικές Αρχές και Τεχνικές. (Μετάφραση αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Σιώκη, Θεσσαλονίκη.
6. Peggie W. (2011). Θεραπευτική Άσκηση σε Ειδικούς Πληθυσμούς, Ιατρικές Εκδόσεις Κωνσταντάρας, Αθήνα.

(English)

1. Buckley JP. (2008). Exercise physiology in special populations, Churchill Livingstone.
2. Cheatum B.A., Hammond A. (2000). Physical activities for improving children's learning and behavior: a guide to sensory motor development. Human Kinetics, Champaign, Illinois.
3. Miller P.D. (1995). Fitness programming and physical disability. Human Kinetics, Champaign, Illinois.
4. Mootz D., Bowers LJ. (1999). Chiropractic care of special populations. Maryland : An aspen publication
5. Rimmer J.H. (1993). Fitness and rehabilitation programs for special populations. McGraw-Hill
6. Shepherd R.B. (1995). Physiotherapy in paediatrics. 3rd ed. Butterworth-Heinemann, Oxford.

- Related academic journals:

- Musculoskeletal Science and Practice
- Physiotherapy

- Physical Therapy
- Physiotherapy Theory and Practice
- Physiotherapy Research International
- Journal of Rehabilitation Medicine
- Journal of Orthopaedics and Sports Physical Therapy

COURSE OUTLINES

7TH SEMESTER

COURSE OUTLINE

ADULT CLINICAL NEUROLOGICAL PHYSIOTHERAPY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_701**	**SEMESTER**	**7th**
COURSE TITLE	**ADULT CLINICAL NEUROLOGICAL PHYSIOTHERAPY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	2	**9**
TUTORIALS	1	
CLINICAL PRACTICE	6	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialized knowledge - skills development /Mandatory module
PREREQUISITE COURSES:	• **Kinesiology of the Trunk (1st)** • **Kinesiology of the Extremities (2nd)** • **Anatomy of Nervous System and Organs (1st)** • **Neurology (2nd)**
DEPENDED COURSES:	• **Clinical Practice in Physiotherapy (8th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this module the students will:

- be able to select and recognize the functional limitations of a neurological adult patient and by utilizing evidence-based knowledge they will have the skill to develop critical thinking in order to choose the most appropriate physiotherapeutic methods, techniques and exercise programmes
- have the ability to set appropriate and case-based short and long term aims which are specific, applicable, and realistic with the aim to improve the functional ability of the patient
- have the competency to choose and apply thorough, safe and appropriate (for each clinical situation) methods of neurological rehabilitation
- become familiar and confident with the physiotherapy functional scales of assessment
- have the skills to adapt the physiotherapy methods according to the special conditions and requirements of the central nervous system disorders
- have the ability to communicate with the patient, his caregiver, the doctor and the multidisciplinary team with the scope to secure the most advanced rehabilitation process

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Team work
- Working in an international and an interdisciplinary environment

- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

The **theoretical part** of the module focuses to the physiotherapy assessment and rehabilitation of the main symptoms and dysfunctions of the neurological disorders of adult patients: a) stroke, b) traumatic brain injury, c) multiple sclerosis, d) parkinson's disease e) spinal cord injuries, f) cerebellar disorders, g) balance and gait disfunctions. Particular emphasis is given to evidence-based approaches in regards the neuroplasticity and the neurophysiological adaptations occurred following application of an appropriate rehabilitation program. New evidence-based approaches regarding assessment methods and rehabilitation procedures will be discussed and critically analyzed. Additionally, the connection of the body structures' impairments with the disabilities and the restrictions in participation is discussed in line to the International Classification of Functioning, Disability and Health (ICF).

The **clinical part** focuses on the teaching and the practical application of clinical assessment methods and rehabilitation techniques of the aforementioned conditions. Additionally, emphasis will be given on the application of evidence-based methods and techniques regarding the neurological rehabilitation at the various stages and clinical environments such as the acute care at the Intensive Care Unit, the rehabilitation at the within-hospital yards, and the chronic stage approaches at the rehabilitation centers and/or the home-based care. Special emphasis is given to enhance the ability of the student to adapt the goals setting in line to every patient's conditions and limitations as well as regarding his progression at various stages of the disease.

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Powerpoint presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Theoretical part (lectures & tutorials)</td><td>130</td></tr>
<tr><td>Lectures, seminars, clinical presentations, interactive teaching, project work</td><td>100</td></tr>
<tr><td>Independent -non-directed (personal) study</td><td>30</td></tr>
<tr><td>Clinical part:
Clinical exercises, practical applications in small groups or</td><td>80</td></tr>
</table>
</td></tr>
</table>

activity are given as well as the hours of non-directed study according to the principles of the ECTS	pairs of volunteers and/or across patients in clinical environments (i.e. hospitals, nursing homes, rehabilitation centres, special schools etc.)	
	Course total	**210**
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	**Theoretical part:** Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work. The assessment of the theoretical part will take place at the end of each semester with written exams. At the discretion of the tutor, it may be possible to assign optional work during the course of the semester to be taken into account in the final score. For **Erasmus students** the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student. **Clinical part:** Oral /practical examination in each clinical exercise, tested on volunteers, whereas, the biggest part of the practical examination will take place on symptomatic volunteers and patients (clinical environment). Safety, clinical skill, effectiveness, knowledge, technique and overall performance will be evaluated. **Student performance and evaluation** for the **practical (clinical) part** of the module will take place throughout the whole semester (weekly during the practical sessions in the clinical environment), as well as within set times at the end of the semester. The student should complete successfully the theoretical and practical (clinical) part of the module in order to accredited the grade for the module. **Language of evaluation:** Greek & English (for Erasmus students)	

5. ATTACHED BIBLIOGRAPHY

- *Suggested bibliography (Greek):*

1. Stokes E.. (2016) Κλινική Διαχείριση στις Νευρολογικές Καταστάσεις, Παρισιάνου, Αθήνα
2. Kessler Martin (2014), Φυσικοθεραπευτικές Παρεμβάσεις σε Ασθενείς με Νευρολογικές Παθήσεις Κωνσταντάρας, ΑΘΗΝΑ
3. Shumway-Cook & Woollacot (2011). Κινητικός έλεγχος από την έρευνα στη κλινική πράξη, Broken Hill, Αθήνα
4. Deborah Nichols-Larsen (2017) Νευρολογική Αποκατάσταση, Κωνσταντάρας, ΑΘΗΝΑ

5. Barnes MP & Johnson GR (2008) Σύνδρομο Ανώτερου Κινητικού Νευρώνα & Σπαστικότητα, Παρισιάνου, Αθήνα
6. Μπάκας Ελ. (2012) Αποκατάσταση Ασθενή με Βλάβη η Κάκωση Νωτιαίου Μυελού, Κωνσταντάρας, ΑΘΗΝΑ

- *Suggested bibliography (English):*

7. Lennon S, Ramdharry G, Verheyden G. (2018) Physical Management for Neurological Conditions 4th ed. Elsevier, Poland
8. O' Sullivan SB & Schmitz TJ (2016) Improving Functional Outcomes in Physical Rehabilitation 2nd ed., Davis Company, Philadelphia
9. Martin S., Kessler M. (2016) Neurologic Interventions for Physical Therapy, 3rd ed. Elsevier Saunders.
10. Lennon S., Stokes M. (2008). Pocket book of neurological physiotherapy. Churchill Livingston. China
11. Umphread DA et al. (2012) Neurological Rehabilitation 6th ed. Elsevier Mosby, USA
12. Jones K. (2011) Neurological Assessment: A Clinician's Guide, Elsevier Churchill Livingstone, Edinburg.
13. Stokes M. & Stack E. (2011). Physical Management for Neurological Conditions 3rd ed., Elsevier Churchill Livingstone, China.

- *Related academic journals:*

- International Journal of Neurorehabilitation
- Neurological rehabilitation
- Neurorehabilitation and Neural Repair
- Frontriers in Neurology
- Archives of Physical Medicine and Rehabilitation
- Brain
- Journal of Neurologic Physical Therapy
- Gait and Posture

COURSE OUTLINE

SPORTS PHYSIOTHERAPY

1. GENERAL

SCHOOL	**SCHOOL OF HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_702**	**SEMESTER**	**7th**
COURSE TITLE	**SPORTS PHYSIOTHERAPY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	**2**	**5**
LABORATORY EXERSISE	1	
CLINICAL PRACTICE	1	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialized module-Skills development
PREREQUISITE COURSES:	-
DEPENDED COURSES:	• **Clinical Practice in Physiotherapy (8th)**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK & ENGLISH
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the end of this module the students will:

- be able to understand the loads distributed to the human body during the performance of sports activities and to interpret their contribution to the development and creation of athletic injuries.
- Present specialized knowledge of the types and tissue healing procedures of sports injuries
- Have the ability to recognize the aetiological factors of sports injuries and apply evidence-based practice techniques for their prevention
- Have the skills to implement successfully documented first aid techniques and acute intervention techniques in sports injuries.
- Have gained the understanding how to perform reliable clinical techniques for the evaluation of sports injuries through laboratory examinations and functional
- Have obtained an great understanding of the functional value of the taping methods in sports (elastic bandages, inelastic adhesive tapes, kinesiotaping)
- Have the skills to design and implement evidence-based prevention programs for all types of athletic injuries (muscles, ligaments, tendons, osteochondritis, nerves, etc.)
- Have the ability to design and successfully implement documented physiotherapy programs for all types of athletic injuries (muscles, ligaments, tendons, nerves, etc.) at all stages of their rehabilitation.
- Have gained the competency to implement effective post-operative rehabilitation programs in cases of arthroscopic correction of articular pathologies in athletes
- Be able to understand the value and contribution of hydrotherapy and know how to apply hydrotherapy programs in sports injuries rehabilitation
- Have the skills to integrate the theoretical knowledge into everyday clinical practice in professional and amateur groups and athletes.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Project planning and management
Respect for difference and multiculturalism
Respect for the natural environment
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking

Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Project planning and management
Production of free, creative and inductive thinking

3. SYLLABUS

The Sports Physiotherapy module aims to train students in the evaluation and rehabilitation of sports injuries. The main topics of the module concern a) the prevention of injuries through the rehabilitation of predisposing intrinsic (functional asymmetry-imbalances) and extrinsic (environmental) factors of injuries and b) rehabilitation of sports injuries through the implementation of specific progressive rehabilitation programs applicable to each type of a sports injury. Also, students are trained in the application of specialized laboratory and functional tests for the assessment of the athletes' functional capacity as well as for the implementation of specialized techniques of sports practicing, like massage, stretching etc., which are necessary for the athlete.

The curriculum of the theoretical part of the module focuses on the following lectures

Sports Injury: Types of injuries (acute injuries-overuse injuries, inflammation-pathophysiology, healing).

First aid-Acute interventions in sport
Flexibility restoration techniques.
Strength rehabilitation techniques
Mobilization- Manipulation Techniques in sports
Neuromuscular control techniques
Plyometrics in Sports
Taping techniques in Sports
Treatment protocols for muscle, ligament and tendons injuries in sports
Hydrotherapy in sports
Electrotherepy in Sports
Functional rehabilitation.

The curriculum of the practical part of the course includes the following modules:

- First-aid techniques to athletic injuries /First aid emergency situations (CPR), Initial appraisal and first aid in the field (on filed), RICE, first aid for specific injuries (urgent respiratory problems, spinal injuries), transfer of patients.
- Assessment of sports injuries of the upper extremity -trunk - techniques and methods of

evaluation of athletic injuries of the upper extremity (injuries of muscles, ligamentous tendon injuries), special tests.

- Assessment of sports injuries in lower extremity - techniques and methods of evaluation of athletic injuries of lower limb (muscle injuries, tendon injuries), special tests.
- Sports stretching
- Sports Taping (bandaging/taping/kinesiotaping)
- Proprioception retraining - dynamic stabilization tests. Techniques for improving proprioception. Application of upper and lower limb recovery programs
- Progressive rehabilitation of sports injuries of the upper and lower limb. Basic principles of progressive rehabilitation - plyometric training
- Evidence-based rehabilitation of muscle, ligament, tendon injuries

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to Face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Power point presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc, practical training applications.
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	See nested table below
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation,*	Assessment methods Theoretical part: Multiple Choice evaluation questions, Short Response Questions, Analysis-Presentation of Clinical Events - Practical Problems, Written Work (potential assessment methods selected by the instructor). Assessment Language: Greek and English for Erasmus students Practical-clinical Part: Oral/practical examination in each laboratory-clinical exercise, tested on models and healthy volunteers or patients. Student performance and evaluation for the practical (laboratory &

Activity	*Semester workload*
Theoretical part (lectures)	**90**
Lectures, seminars, study and analysis of bibliography, tutorials, interactive teaching, educational visits.	70
Independent (personal) study Project, essay writing	20
Practical parts (Laboratory & Clinical)	**50**
Laboratory exercises, practical applications in small groups.	**25**
Clinical exercises in small groups of people/patients presenting with musculoskeletal dysfunctions	**25**
Course total	**140**

other *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	clinical) part of the module will take place throughout the whole semester (weekly during the practicals), as well as within set times at the end of the semester and maybe in the middle of it. Final Grade: The final score incorporates the assessment into each individual teaching activity (eg lectures-essays) and is only given if the students are successfully examined in each activity

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

In Greek:
1. Φουσέκης Κ (2015). Εφαρμοσμένη Αθλητική Φυσικοθεραπεία, Ιατρικές Εκδόσεις Π. Χ. Πασχαλίδης2. Πουλμέντης Π (2007). Φυσικοθεραπεία στον Αθλητισμό, Εκδόσεις Καπόπουλος.
3.PrenticeW.E. (2007). ΤεχνικέςΑποκατάστασηςΑθλητικώνΚακώσεων , ΕπιστημονικέςΕκδόσειςΠαρισιάνου.
4. ΔεληγίαννηςΑ. (1997). Ιατρικήτηςάθλησης, UniversityStudioPress.
5. ΑμπατζίδηςΓ. (2003). ΑθλητικέςΚακώσεις, UniversityStudioPress.
6. ΜπαλτόπουλοςΠ(2002). ΑθλητιατρικήΙ,ΙΙ, ΙατρικέςΕκδόσειςΠ. Χ. Πασχαλίδης

In English:
7. Wade R.M. (2009). Sports Injuries: A Unique Guide to Self-Diagnosis and Rehabilitation, Churchill Livingstone.
8.Norris Christopher M.(2004). Sports Injuries: Diagnosis and Management, Butterworth-Heinemann
9. Perrin D.H. (1993). Isokinetic exercise and assessment, Human Kinetics.
10. McAtee R.E. (1999). Facilitated stretching, Human Kinetics
11. Ellenbecker TS, Davies GJ. (2001). Closed kinetic chain exercises: a comprehensive guide to multiple joint exercise, , Human Kinetics.
12. Radcliffe J, Farentinos J. (2007). High powered plyometrics.
13. White M. (1995). Water exercise. Human Kinetics
14. Donatelli R. (2007). Sports specific rehabilitation, Churchill Livingstone.
15. Landry G, Bernhardt D. (2003). Essentials of primary care sports medicine, Human Kinetics. 16. Corrigan B, Maitland GD (1994). Musculoskeketal and Sports Injuries, Elsevier.

Related academic journals:

Journal of Sports Physiotherapy

British Journal of Sports Medicine

American Journal of Sports Medicine

Journal of Science and medicine in Sports

Journal of Sports Physical therapy

COURSE OUTLINE

DISABILITY AND FUNCTIONAL REHABILITATION

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_703**	**SEMESTER**	**7th**
COURSE TITLE	**DISABILITY AND FUNCTIONAL REHABILITATION**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	3	**4**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Special Background
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes
The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this module the students will:

- be able to evaluate serious musculoskeletal-neurological upper and lower limb disorders,
- have the skills to implement specific functional rehabilitation programs for central and peripheral nervous system disorders;
- have the ability to make informed choices about the most appropriate therapeutic and rehabilitation programs.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas
Project planning and management
Respect for difference and multiculturalism
Respect for the natural environment
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking
Others…

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Team work
- Working in an international and an interdisciplinary environment
- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

The syllabus of this course focuses on the evaluation and functional rehabilitation of the following clinical theories for the trunk and the extremities: a) lesions - central nervous system diseases; b) peripheral nerve injuries; c) paraplegia-quadriplegia patients; d) of pre-operative and post-operative conditions e) chronic peripheral nerve diseases chronic peripheral nerve problems etc.). Particular emphasis will be given to the functional rehabilitation of the aforementioned diseases, the particularities of their treatment, as well as the documented application of the most appropriate physiotherapeutic methods and means for their long-term rehabilitation depending on the stage of the disease.

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Powerpoint presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Theoretical part (lectures & tutorials)</td><td>40</td></tr>
<tr><td>Lectures, seminars, clinical presentations, interactive teaching, project work</td><td>40</td></tr>
<tr><td>Independent (personal) study</td><td>30</td></tr>
<tr><td>Course total</td><td>110</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td>Theoretical part: Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work.
The assessment of the theoretical part will take place at the end of each semester with written exams. The tutor has also the option to give provisional essays/reports throughout the semester, which will account for a percentage of the grade of the theoretical part.
For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student.

Language of evaluation: Greek & English (for Erasmus students)</td></tr>
</table>

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

(Greek)

1. Sue Ann Sisto, Erica Druin, Marta Macht Sliwinski (2017) Κακώσεις Νωτιαίου Μυελού-Διαχείριση και Αποκατάσταση, Επιμέλεια Ελληνικής Έκδοσης: Κ. Φουσέκης, Δ. Στασινόπουλος, Εκδόσεις Συμμετρια
2. Κοτζαηλίας Δ. (2008)Φυσικοθεραπεία σε κακώσεις του μυοσκελετικού συστήματος, University Press.
3. Hoppenfeld S (2000): Ορθοπεδική Νευρολογία. Αθήνα, Μαρία Γρ. Παρισιάνου.
4. Kisner C, Colby LA (2003). «Θεραπευτικές Ασκήσεις. Βασικές Αρχές και Τεχνικές», Επιμέλεια-Μετάφραση: Σπυριδόπουλος Κ, Σάτκα Γ, Ιατρικές Εκδόσεις Σιώκη, ISBN: 960-7461-45-2. (Kisner C, Colby LA. (2003). Therapeutic Exercise. Foundations and Techniques, F. A. Davis Company)

(English)

1. Ellenbecker Todd, Mark De Carlo, Carl DeRosa (2009). Effective Functional Progressions in Sport Rehabilitation, Human Kinetics.
2. O'Sullivan S.B, Schmitz T.J (2009). Improving Functional Outcomes in Physical Rehabilitation. Davis Plus.
3. Kisner C, Colby LA. (2007). Therapeutic Exercise. Foundations and Techniques, 5th Edition, F. A. Davis Company, Philadelphia.
4. Wiggins C. E. (2007). A concise guide to orthopaedic and musculoskeletal impairment ratings. Lippincott Williams & Wilkins, Philadelphia.
5. Davies P(2000): "Steps to Follow - The Comprehensive Treatment of Patients with Hemiplegia". Second edition, Springer, Germany.

- Related academic journals:

1. Musculoskeletal Science and Practice
2. The Journal of Spinal Cord Medicine
3. Physiotherapy
4. Journal of Neurosurgery: spine
5. Journal of Neurotrauma
6. Physical Therapy

COURSE OUTLINE

RESEARCH METHODOLOGY IN HEALTH SCIENCES

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_704**	**SEMESTER**	**7th**
COURSE TITLE	**RESEARCH METHODOLOGY IN HEALTH SCIENCES**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	2	**4**
LABORATORY EXERSISE	1	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Scientific Area General Infrastructure Course
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the end of the course the students will:

- be able to understand the aims and objectives of clinical research.

-present the ability to describe sources of clinical research information such as information from libraries and online information such as Medline and the Internet.

- be able to develop a feasible research question with minimal help.

- have the competency to discuss research projects and be aware of the implications of shortcomings in research plans.

-have gained the knowledge to understand the concept of proper research measurement and successfully implement the concepts of reliability and validity in measurement.

- acquire the ability to perform research measurements and evaluate the reliability and validity of the measurement.

-have the skills to create a feasible research proposal that is relevant to the physiotherapy industry.

-have the knowledge required to understand concepts of descriptive statistics that include average, mean, standard deviation, standard error, curvature, etc.

-have gained the competency and the skills to explain the concept of hypothetical examination, including differential test and relational test.

-have the knowledge how to select and use simple paramount statistical tests such as Students t-test, Pearson coupling index, prediction equations, ANOVA, and correctly implement the non-parametric tests.

- be able to criticize the quality of published research

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

-Search, analyze and synthesize data and information, using the necessary technologies

-Adapt to new situations

-Decision making -Exercise of criticism and self-criticism -Promote free, creative and inductive thinking

3. SYLLABUS

1. Basic concepts of research methodology. The role of research, definitions, scientific method, conditions of the scientific method, the research process. The Internet at the service of research. 2. Introduction to the research plan. Types of sampling, types of research, health research projects. Basic and applied research. 3. Measurement. Definitions, measurement scales. Parameters and statistics. 4. Reliability. Typical error, Validity, validity, internal and external validity, threats to internal and external validity. 5. Descriptive research. Definitions, categories and critique of descriptive research. 6. Correlation research. Definitions, constraints and correlation uses, statistical procedures 7. Single Research Plan (One Case). Clinical applications, species, analysis and interpretation. 8. Group research projects - data of two categories. Statistical analysis by parametric methods non-parametric methods. 9. Group research projects - data of many categories. Statistical analysis by parametric and non-parametric methods. 10. Presenting the research proposal

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>- Power point presentations
-Electronic discussions via an asynchronous learning platform
- Video
- Multimedia</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity,</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures, Interactive teaching</td><td>40</td></tr>
<tr><td>Implement projects by groups</td><td>70</td></tr>
<tr><td>Course total</td><td>110</td></tr>
</table>
</td></tr>
</table>

etc. *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Assessment Language, Greek and English for Erasmus students Assessment methods: Written exam with multiple choice questions, short answer questions and development questions. Written examinations take place twice a year at the end of the spring semester and in September The written exam is 100% of the total grade of the student's assessment. At the discretion of the teacher, it may be possible to assign optional work during the course of the semester to be taken into account in the final score. The written exam is 100% of the total grade of the student's assessment. At the discretion of the teacher, it may be possible to assign optional work during the course of the semester to be taken into account in the final score.

5. ATTACHED BIBLIOGRAPHY

- *Suggested bibliography:*

Greek :

1. Sachin A (1988): Research Methodology in Health Professions. Beta Publications, Athens.
2. McKenzie, BC (1998): Medicine and Internet: Online Information Sources and Terminology. Medical Publications Siokis, Thessaloniki.

English:

1. Sackett, DL, Straus, SE, Richardson, WS, Rosenberg, W, Haynes, RB, (2000). Evidence-Based Medicine. How to Practice and Teach EBM. 2nd edition. Churchill Livingtone, NY,

2. Essentials of Medical Statistics Douglas Altman (Editor), David Machin (Editor), Trevor Bryant (Editor), Stephen Gardner (Editor) (2003). Statistics with Confidence: Confidence Intervals and Statistical Guidelines (Book with Diskette for Windows 95, 98, NT).

COURSE OUTLINE

DIAGNOSTIC IMAGING

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_705**	**SEMESTER**	**7th**
COURSE TITLE	**DIAGNOSTIC IMAGING**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**ECTS CREDITS**
LECTURES	3	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Special background Specialised knowledge, Skills development
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek, English (optional)
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the end of the course the students will:

- be able to understand the basic methods of imaging different areas of the human body.
- have gained the knowledge to understand the rationale for evaluating and selecting appropriate imaging in various musculoskeletal conditions.
- have gained the skills to evaluate qualitatively the imaging method and be able to use it for the differential diagnosis of diseases or the course of treatment.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Project planning and management

Respect for difference and multiculturalism

inductive thinking

……

Adapting to new situations –

Search, analyse and present data and information,

Decision making

Criticism and self-criticism

Adapting to new situations

3. SYLLABUS

1 Introduction to diagnostic imaging
2. Newer imaging methods
3. X-rays and imaging systems
4. X-ray characterization, CT scan
5. Magnetic tomography, Digital angiography
6. Ultrasound, PET, SPECT
7. Degenerative vertebral changes
8. Physiological baseline radiance
9. Normal shoulder and upper limb radiance
10. Arteriographies and venography
11. Physiological tibia-ankle joint
12. Physiological chest X-ray,
13. Cardiovascular system
14. Digestive and genitourinary system
15. Safety from ionizing radiographs
16. Scenarios of musculoskeletal diseases accompanied by imaging methods of differential diagnosis with applications in athletic physiotherapy as well as in applications of musculoskeletal physiotherapy

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Lectures, tutorials, seminars work face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint presentations) in teaching. The lectures content of the course for each chapter are uploaded on the internet (e-class platform), in the form of a series of ppt files, where from the students can freely download them using a password which is provided to them at the beginning of the course.
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	*Activity* / *Semester workload* **Lectures** 50 Case studies 20 Projects 30 Private study 10 Course total ***110***
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	**Lectures** Written examination at the end of the semester (multiple choice questions, true-false, short answers, clinical problem solving) – Minimum passing grade: 5.

5. ATTACHED BIBLIOGRAPHY

- **Suggested bibliography:**

GREEK

1. Αλειφερόπουλος Δ., Πάνου, Θ. (2004). Ακτινογραφική απεικόνιση. Εκδόσεις Βήτα, Αθήνα.

2.Βαρσαμίδης, Κωνσταντίνος (2002). Στοιχεία βιοϊατρικής διαγνωστικής απεικόνισης. University Studio Press.

3.Βλάχος Λ. (2000). Σύγχρονη διαγνωστική απεικόνιση. Εκδόσεις Βασιλειάδη, Αθήνα.

ENGLISH

1.DeMaio D. (1996). Registry review in Computed Tomography. Saunders.

2.Guy C., Ffytche D. (2005). Anintroduction to the principles of Medical Imaging. Imperial College Press, London.

3.Mitchell A. Cockburn J.F., Lim A. (2003). Grainger & Allison's Diagnostic Radiology. Churchill Livingstone.

4.Pope T. (2010). High-yield Imaging: Musculoskeletal. Saunders.

5.Ryan S., McNicholas M., Eustace S.J. (2015). Anatomy for diagnostic Imaging. Saunders.

COURSE OUTLINES

8TH SEMESTER

COURSE OUTLINE

CLINICAL PRACTICE IN PHYSIOTHERAPY

1. GENERAL

SCHOOL	**SCHOOL OF HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_801**	**SEMESTER**	**8th**
COURSE TITLE	**CLINICAL PRACTICE IN PHYSIOTHERAPY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**ECTs CREDITS**
CLINICAL PART (Clinical exercise/placement)	40	14
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialized module-Skills development
PREREQUISITE COURSES:	**All Specialized/Skills development courses up to the 8th semester**
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK & ENGLISH
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of*

the European Higher Education Area
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the end of this module, the students will:

- be able to work within public and private health rehabilitation centers and become equal members of the interdisciplinary health team,
- have the skills to recognize safety rules in the clinical placement; communicate effectively with the patient and his / her relatives
- present the ability to collect and evaluate the patient's history appropriately
- have the competency to recognize the ethical rules governing the patient's management
- be able to apply their clinical practice safely and respecting the conditions of proper training of trainees,
- have gained the skills to implement in practice techniques and methods of patient assessment from a wide range of clinical pathologies,
- be able to develop correct clinical reasoning based on the recognition of aetiological factors and the evaluation of pathological adaptations of the human body
- have obtained the skills to design and implement successfully documented clinical physiotherapy programs for all types of injuries and diseases (muscles, ligaments, tendons, osteochondral, nerves, etc.)
- have the ability to implement successfully evidence-based first aid techniques and emergency interventions
- gained the in depth knowledge to implement effective post-operative rehabilitation programs in case of arthroscopic correction of pathologies and injuries
- be able to integrate the theoretical knowledge into the daily clinical practice of physiotherapy in individual patients or a group of patients.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment

Project planning and management Production of free, creative and inductive thinking

3. SYLLABUS

This module focuses on the clinical practice of physiotherapy of students of the Department of Physiotherapy and in particular on the clinical application of techniques and methods of evaluation and rehabilitation in clinical cases of patients covering the whole range of diseases and injuries of the musculoskeletal, nervous, cardiovascular and respiratory system of the human organism.

This module allows students to become familiar with a variety of clinical environments and a variety of clinical incidents, collecting and recording patients' history data and assessing patients to be able to formulate and apply appropriate physiotherapy and rehabilitation. At the same time, this module enables students to (a) familiarize themselves with safety rules in clinical settings; (b) train themselves in the appropriate ways of transporting patients with safety and ergonomics; and (c) become members of a multidisciplinary health team, work together harmoniously for the efficient operation of health structures and the ideal provision of health services.

Particular emphasis is given to the clinical application of evidence-based practice techniques and methods of physiotherapy in neuromuscular and cardiovascular diseases and injuries, at sports injuries as well as in the treatment of specific cases and populations. Furthermore, this module aims to educate students in the development of correct clinical reasoning and decision making to integrate clinical assessment and management of problems related to human attitude, movement, and activity.

Most of the module takes place in public hospitals (Hospitals, Health Centers) and Private Health Institutions (Rehabilitation Centers, Physiotherapy Laboratories) so that students get in touch with patients and be able to apply in practice techniques and methods of assessment and treatment that have been taught and practiced in the specialized module and the Clinical Training modules of the Department

The main modules of the course concern

- The clinical practice of physiotherapy in injuries-diseases of the musculoskeletal system
- The clinical practice of physiotherapy in injuries-diseases of the nervous system
- The clinical practice of physiotherapy in cardiovascular system injuries-diseases
- The clinical practice of physiotherapy in respiratory lesions-disorders
- The clinical practice of physical therapy in athletic injuries-diseases
- The clinical practice of physiotherapy in pediatric lesions-disorders
- The clinical practice of physiotherapy in elderly patients (geriatric physiotherapy)

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to Face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education,*	Power point presentations, e-discussions via the e-class educational platform, videos, use of anatomical

<table>
<tr><td>communication with students</td><td>models etc, practical training applications.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Clinical placement</td><td>350</td></tr>
<tr><td>Clinical exercises, practical applications in small groups of patients with various pathologies and injuries, clinical evaluation and design of treatment programs</td><td>325</td></tr>
<tr><td>Project, essay</td><td>25</td></tr>
<tr><td>Course total</td><td>350</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td>Assessment methods

Clinical practice: The clinical practice is evaluated throughout the clinical practice and at specified predetermined intervals at the end or if necessary at intervals of the semester. It includes laboratory-oral examination with demonstration of laboratory applications, assessing the adequacy of the students in each laboratory-clinical exercise separately. In addition, clinical exercise is assessed through a written case report and analysis of case studies.</td></tr>
</table>

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

In Greek:

1. Κοτζαηλίας Δ. (2008). Φυσικοθεραπεία σε κακώσεις του μυοσκελετικού συστήματος. University Press, Θεσσαλονίκη.
2. Λαμπίρης Η.Ε. (2003). Ορθοπαιδική και Τραυματιολογία. Ιατρικές Εκδόσεις Πασχαλίδη, Αθήνα.
3. Συμεωνίδης Π. Π. (1997). Ορθοπαιδική: κακώσεις και παθήσεις του μυοσκελετικού συστήματος. 2η έκδ. University Studio Press, Θεσσαλονίκη.
4. Hoppenfeld S. (1993). Φυσική Εξέταση της Σπονδυλικής Στήλης και των άκρων. (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Παρισιάνου, Αθήνα.
5. Deborah Nichols-Larsen (2017) Νευρολογική Αποκατάσταση: Νευροεπιστήμη και Νευροπλαστικότητα στην Εφαρμοσμένη Φ/Θ, Κωνσταντάρας, ΑΘΗΝΑ
6. DeborahNichols-Larsen (2017) Νευρολογική Αποκατάσταση, Κωνσταντάρας, ΑΘΗΝΑ
7. Russell (2010) Κλινική Εκτίμηση της Βλάβης Των Περιφερικών νεύρων, Κωνσταντάρας, ΑΘΗΝΑ
8. Hoppenfeld S. (2000) Ορθοπεδική Νευρολογία. (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Παρισιάνου,

Αθήνα.

In English

9. Page C. 2015, Management in Physical Therapy Practices, 2nd ed. Davis Company, Philadelphia.
10. Dutton M. 2014. Introduction to Physical Therapy and Patient Skills, Mark McGraw-Hill Education, China
11. Jewell D. 2018. Guide to Evidence-Based Physical Therapist Practice 4thed.Jones and Bartlett Publishers
12. Fetters L., Tilson J. 2019. Evidence Based Physical Therapy. 2nd ed. Davis Company
13. Herbert R., Jamtvedt G., Hagen KB., Mead J. 2011. Practical Evidence-Based Physiotherapy, 2nd ed. Elsevier Churchill Livingstone.

10 AACVPR (2004). Guidelines for Cardiac Rehabilitation and Secondary Prevention Programs-4th Edition Human Kinetics.

11 AACVPR (2004).Guidelines for Pulmonary Rehabilitation Programs-3rd Edition Human Kinetics.

12 ACSM's exercise management for persons with chronic diseases and disabilities (1997). American College of Sports Medicine, Champaign :Human Kinetics.

13 American College of Sports Medicine (2010). ACSM's Introduction to Exercise Science (American College/Sports Medicine), Lippincott Williams & Wilkins.

14. Braddom R. L. (2002). Practical guide to musculoskeletal disorders: diagnosis and rehabilitation. 2nd ed. Butterworth-Heinemann, Boston.
15. Cleland J. (2005). Orthopaedic clinical examination: an evidence-based approach for physical therapists. Icon Learning Systems, Carlstadt, N.J.
16. Hertling D. (2006). Management of common musculoskeletal disorders: physical therapy principles and methods. 4th ed. Lippincott Williams & Wilkins, Philadelphia.

Related Academic Journals

Journal of Physiotherapy

British Journal of Sports Medicine

American Journal of Sports Medicine

Journal of Science and medicine in Sports

Journal of Sports Physical therapy

COURSE OUTLINE

EMERGENCY MEDICINE - TRAUMATOLOGY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_802**	**SEMESTER**	**8th**
COURSE TITLE	**EMERGENCY MEDICINE - TRAUMATOLOGY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**ECTS CREDITS**
LECTURES	3	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Special background Specialised knowledge, Skills development
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek, English (optional)
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*

- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of the module the students will:
- have gained the skills to recognize the essential information needed to record data and be able to obtain it from the patient.
- be able and competent to evaluate the data of the history that are a deviation from the normal and have the skill to prioritize them.
-Be able to record patient history in an organized way based on a proposed model.
- demonstrate the skills to record a hierarchical list of problems based on history.
- be able to get acquainted with taking a pediatric history, understanding its peculiarities in relation to the adult history.
-have obtained the skills to record the pathological findings during the examination of the patient and will be able to evaluate the differences from the normal one.
- have the competency to provide first aid in medical emergencies

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Criticism and self-criticism*
Working independently	*Production of free, creative and inductive thinking*
Team work	
Working in an international environment	

Adapting to new situations - Search, analyse and present data and information,
Decision making
Criticism and self-criticism
Adapting to new situations

3. SYLLABUS

Basic principles of Emergency Medicine
Emergency Medical Care Systems
-Guidelines of basic and specialized support for life
-All the systems approach the patient : with life-threatening situations
-Acute failures of organs and systems
-Basics in dealing with multiple trauma
-Active presentation of clinical cases

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Lectures, tutorials, seminars work face to face
USE OF INFORMATION AND	Use of Information and Communication Technologies (ICTs)

<table>
<tr><td>COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>(e.g. powerpoint presentations) in teaching. The lectures content of the course for each chapter are uploaded on the internet (e-class platform), in the form of a series of ppt files, where from the students can freely download them using a password which is provided to them at the beginning of the course.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures</td><td>40</td></tr>
<tr><td>Case studies</td><td>40</td></tr>
<tr><td>Projects</td><td>20</td></tr>
<tr><td>Private study</td><td>20</td></tr>
<tr><td>Course total</td><td>120</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td>Lectures

Written examination at the end of the semester (multiple choice questions, true-false, short answers, clinical problem solving) –

Minimum passing grade: 5.</td></tr>
</table>

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

1.Emergency Medicine An Illustrated color text edited by Paul Atkinson , Richard

2.Kendall , Lee van Rensburg Cuurchill Livingstone Elsevier εκδόσεις Παριζιάνου

3.Study Guide 7th edition 2011,Mc Graw Hill Medical

4.Current σύγχρονη επειγοντολογία: Γεώργιος Μπαλτόπουλος, C. K. Stone, R. L. Humphries,

5.Εγχειρίδιο Βασικών Γνώσεων Επείγουσας Ιατρικής: Ε. Ασκητοπούλου, Εκδόσεις Κύβος, 2007.

COURSE OUTLINE

PAIN AND CLINICAL MANAGEMENT

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_803**	**SEMESTER**	**8th**
COURSE TITLE	**PAIN AND CLINICAL MANAGEMENT**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	3	**4**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Special Background
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

Through the course the students will be able to acquire specialized knowledge regarding pain physiology, treating pain inducing factors, pain relief methods, supplementary methods of pain relief, pain physiology, biopsychosocial management model pain and the legal framework for pain management.

In addition, at the end of the course the students will be able to:

- Understand the biopsychosocial model and its relevance to pain, its response to pain and the effect of pain on one's life.
- Apply knowledge of the basic science of pain to personal assessment and management of pain.
- Promote health and well-being through reducing the impact of pain and disability on the patient's life.
- to apply the skills to evaluate and measure the biological, physical and psychosocial factors that contribute to pain, disability and disability using valid and credible assessment tools.
- to present competency in identifying professional, personal, family, and social barriers to effective pain assessment and management.
- Develop a patient-based management program that aims to manage pain and encourage effective techniques, promote tissue healing, improve functionality, reduce disability, and facilitate recovery.
- Know the basic principles of pain management that includes patient education, active approaches such as functional-oriented approaches (re-training function and movement), managerial techniques focused on pain management and electro-physical resources.
- Demonstrate awareness of the skills and abilities of other professionals in order to enable appropriate and timely cooperation and referral.
- Communicate appropriate information to other health care professionals involved in patient care to optimize interdisciplinary management, including medical and surgical, behavioral and psychological or pharmacological approaches.
- Identify people at risk of inappropriate or no pain relief (eg people who cannot report pain, infants and people with cognitive impairment) or people with inequalities of care.
- Be aware of the code of conduct that recognizes human rights.
- Critically reflect on effective ways of cooperating and improving care for people with pain.
- Regularly update personal knowledge of pain science and the management of evidence-based pain.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and *Project planning and management*

information, with the use of the necessary technology	*Respect for difference and multiculturalism*
Adapting to new situations	*Respect for the natural environment*
Decision-making	*Showing social, professional and ethical responsibility and*
Working independently	*sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Team work
- Working in an international and an interdisciplinary environment
- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

The aim of the course is to give students the ability to improve their knowledge of pain, pain relief by various methods and to be able to evaluate and manage the pain phenomenon according to documented knowledge.

The primary therapeutic goal of physiotherapists working with people suffering from pain is to provide human-centered care based on evidence and to promote health and well-being throughout their lives. The focus of the individual is to design health systems around people's needs instead of illnesses and health institutions so that everyone (the community and individuals) gets the right care at the right time in the right place. In this context, the revised curriculum is in line with the World Health Organization Framework for Integrated Health Services (language, principles and elements of the health system) and the International Classification of Functioning, Disability and Health (ICF).

The skills that all Health Scientists now have in terms of pain management should cover the following areas:

1. The multidimensional nature of pain
2. The evaluation and measurement of pain
3. Pain Management Methods and Techniques
4. The pathology of pain

These areas, in essence, address the fundamental concepts and complexity of pain, how pain is observed and evaluated, collaborative approaches to treatment options, and the use of lifelong competences in the context of different settings, populations and models of care groups Pathophysiology of Pain.

Specifically, the content of the course focuses on:

1. Systematic pain effects

2. Pain characteristics
3. Presentation of Key Syndromes for Acute and Chronic Pain.
4. Pain Assessment- Pain Acid Syndromes
5. Pain Assessment - Chronic Pain Syndromes
6. Treatment of acute and chronic pain
7. Physiopathological Mechanisms, Acid and Chronic Pain.
8. Biopsychosocial Pain Management Model.
9. Evaluation and treatment
10. Approach to the Principles of Pharmaceutical Therapy and Alternative Forms of Treatment.
11. Organization of pain management (Networking - Pain Clinics - Interdisciplinary involvement of Health Professions).

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Powerpoint presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Theoretical part (lectures & tutorials)</td><td>40</td></tr>
<tr><td>Lectures, seminars, clinical presentations, interactive teaching, project work</td><td>50</td></tr>
<tr><td>Independent (personal) study</td><td>30</td></tr>
<tr><td>Course total</td><td>120</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</td><td>Theoretical part: Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work.
The assessment of the theoretical part will take place at the end of each semester with written exams. The tutor has also the option to give provisional essays/reports throughout the semester, which will account for a percentage of the grade of the theoretical part.
For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided</td></tr>
</table>

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.	by the tutor and agreed by the student. **Language of evaluation:** Greek & English (for Erasmus students)

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

(Greek)

- ΑΡΓΥΡΑ Ε, ΒΑΔΑΛΟΥΚΑ Α, ΣΙΑΦΑΚΑ Ι, ΑΝΑΣΤΑΣΙΟΥ Ε, ΠΑΠΑΔΟΠΟΥΛΟΣ Γ. Αντιμετώπιση Οξέως και χρόνιου πόνου. Εκδόσεις ΕΦΥΡΑ.
- Δ.Βασιλάκος. Ο πόνος και η αντιμετώπιση του. Εκδόσεις ΕΦΥΡΑ

(English)

- Stephen McMahon, Martin Koltzenburg, Irene Tracey, Dennis Turk. Wall & Melzack's Textbook of Pain, 6th edition, Hardcover ISBN: 9780702040597, Εκδόσεις Saunders, 2014
- Joseph M. Donnelly, César Fernández de las Peñas, Michelle Finnegan, Jennifer L. Freeman. Myofascial Pain and Dysfunction: The Trigger Point Manual, 3rd ed., Wolters Kluwer, 2019
- Cesar Fernandez de las Penas, Joshua Cleland, Jan Dommerholt. Manual Therapy for Musculoskeletal Pain Syndromes: an evidence- and clinical-informed approach. Elsevier Health Sciences, 2015.
- Dennis Turk, Robert J. Gatche. Psychological Approaches to Pain Management: A Practitioner's Handbook. Third Edition, Guilford Publications, 2018.

Related References

- Abdolrazaghnejad, A. et al. (2018) 'Pain Management in the Emergency Department: a Review Article on Options and Methods', Advanced Journal of Emergency Medicine, 2(4), p. e45. doi: 10.22114/ajem.v0i0.93.
- Ahmadi, A. et al. (2016) 'a 2020. 1', Injury & Violence, 8(2), pp. 89–98.
- Egan, M., Seeger, D. and Schöps, P. (2015) 'Physiotherapie und physikalische Therapie in der Schmerzmedizin', Schmerz, 29(5), pp. 562–568. doi: 10.1007/s00482-015-0043-z.
- Gatchel, R. et al. (2014) 'Interdisciplinary chronic pain management: international perspectives', American Psychologist, 69(2), pp. 119–30. doi: 10.l037/aO035514.
- George, B. et al. (2019) 'Opioids in cancer-related pain : current situation and outlook'. Supportive Care in Cancer, 4.
- Hylands-White, N., Duarte, R. V. and Raphael, J. H. (2017) 'An overview of treatment approaches for chronic pain management', Rheumatology International. Springer Berlin Heidelberg, 37(1), pp. 29–42. doi: 10.1007/s00296-016-3481-8.
- Sonneborn, O. and Bui, T. (2019) 'Opioid induced constipation management in orthopaedic and trauma patients: Treatment and the potential of nurse-initiated management', International Journal of Orthopaedic

Related academic journals:

- Journal of Pain and Symptom Management
- Pain
- The Journal of Pain
- PloS One
- European Journal of Pain
- British Journal of Pain
- Pain Research and Management
- Journal of Pain research
- Pain Medicine

COURSE OUTLINES

OPTIONAL WINTER MODULES

	OPTIONAL WINTER MODULES							
COURSE		WEEKLY TEACHING HOURS						
COURSE CODE	COURSE TITLE	LECTURES	TUTORIALS	LABORATORY EXERSISE	CLINICAL PRACTICE	CREDITS	WORKLOAD	ECTS
PTH_W 01	SPORTS MEDICINE	2	-	-	-	2	100	4
PTH_W 02	BIOETHICS AND DEONTOLOGY	2	-	-	-	2	100	4
PTH_W 03	BIOSTATISTICS	2	-	-	-	2	100	4
PTH_W 04	SAFETY IN HEALTH CARE	2	-	-	-	2	100	4
PTH_W 05	ERGONOMICS - PREVENTION OF MUSCULOSKELETAL DISORDERS	2	-	-	-	2	100	4
PTH_W 06	SCIENTIFIC WRITING	2	-	-	-	2	100	4
PTH_W 07	HEALTH PSYCHOLOGY	2	-	-	-	2	100	4
PTH_W 08	HYDROTHERAPY	2	-	-	-	2	100	4

COURSE OUTLINE

SPORTS MEDICINE

5. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_W01**	**SEMESTER**	**OPTIONAL WINTER MODULE**
COURSE TITLE	**SPORTS MEDICINE**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**ECTS CREDITS**
LECTURES	2	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Special background Specialised knowledge, Skills development
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek, English (optional)
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

6. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*

- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

With the completion of the module the student will

- present in depth understanding of the pathophysiology of adaptations of the cardiorespiratory system to exercise

-have the competency to explain the development of pathological adaptations leading to illnesses - injuries

- Know in detail the types of examinations and the equipment used for the diagnostic approach and differential diagnosis

- Be able to recognize the causative factors of lesions and pathogenesis of musculoskeletal lesions

- have the skills to apply the documented emergency response techniques that may exist in sports facilities

- Be aware of the principles of each musculoskeletal lesion and be able to make choices about how to treat

- have knowledge of the specifics of sport in specific chronic conditions such as bronchial asthma, diabetes mellitus

- Understand issues related to the nutrition of the exercised, nutritional supplements, drugs, control of the use of prohibited substances and the medical issues that this entails for the various systems and the health of the exercised

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Criticism and self-criticism*
Working independently	*Production of free, creative and inductive thinking*
Team work	*……*
Working in an international environment	

Adapting to new situations –

Search, analyse and present data and information,
Decision making
Criticism and self-criticism
Adapting to new situations

7. SYLLABUS

- Functional Anatomy of Exercise –
- Physiopathology of Exercise
- Applied Hygiene in Exercise –
- Acute and Chronic Sports Injuries
- First aid to the sports injuries
- Doping - Toxicology
- Exercise Cardiology - Exercise Pulmonology
- Craniocerebral injuries in exercise –

- Facial and eye injuries
- Illustrative methods for the diseases and injuries of the exercised
- Effect of Exercise on Children, Diabetes Mellitus
- Obesity and exercise
- Sudden death in sports

8. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Lectures, tutorials, seminars work face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint presentations) in teaching. The lectures content of the course for each chapter are uploaded on the internet (e-class platform), in the form of a series of ppt files, where from the students can freely download them using a password which is provided to them at the beginning of the course.
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	***Activity*** / ***Semester workload*** **Lectures** 40 Case studies 10 Projects 10 Private study 40 Course total ***100***
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	**Lectures** Written examination at the end of the semester (multiple choice questions, true-false, short answers, clinical problem solving) – Minimum passing grade: 5.

9. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

GREEK

1.«Εγχειρίδιο Αθλητιατρικής», Oxford, Sherry E., Wilson SF., (Επιμέλεια Μετάφρασης: Μήτσου Α., Βλάσης Κ.), Ιατρικές Εκδόσεις Πασχαλίδης, 2007, Αθήνα, ISBN: 9789603994114 (13256649)

2.«Αθλητιατρική», Τόμος Α'Β', Skouderi GR, McCann PD, Bruno PJ, Επιμέλεια Μετάφραση: Μπαλτόπουλος Π., Ιατρικές Εκδόσεις Π.Χ. Πασχαλίδης, 2012 Αθήνα.

ENGLISH

1. Mark A Harrast MD (Author, Editor), Jonathan T Finnoff MD (Author), Jonathan T Finnoff Do (Editor)Sports Medicine, Second Edition: Study Guide and Review for Boards, 2016

2. Sports Emergency Care: A Team Approach Third EditionSports Emergency Care: A Team Approach Third Edition, by Robb Rehberg PhD ATC CSCS NREMT CF (Author), Jeff G. Konin PhD ATC PT FACSM (Author)

3.Sports Medicine, DeLee, Drez and Miller's : 2-Volume Set Hardcover, 2018

JOURNALS

1.BMJ Open Sport & Exercise Medicine

2.The American Journal of Sports Medicine

3.British Journal of Sports Medicine (BJSM)

4.Journal of Sports Medicine

5.Sports Medicine J

COURSE OUTLINE

BIOETHICS AND DEONTOLOGY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_ W02**	**SEMESTER**	**OPTIONAL WINTER MODULE (5th or 7th)**
COURSE TITLE	**BIOETHICS AND DEONTOLOGY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	2	**4**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Special Background / Optional module
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*

- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this module the students will:

- Be aware of the rules of Ethics and Deontology that govern the scientific and professional field of Physiotherapy.
- Have a deep understanding of the prospects somebody has as a graduate physiotherapist in order to make the best possible choices.
- Be competent with the current legal framework governing the profession of Physiotherapist.
- Have the ability to communicate with patients, caregivers and colleagues within the framework of Ethics of his profession
- Have the competency of the awareness of his / her obligations and his / her rights as a physiotherapist
- Have the skills to set realistic goals for professional rehabilitation in the field of physiotherapy, in the private or public sector.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Team work
- Working in an international and an interdisciplinary environment
- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

The course curriculum includes: a) Ethics rules and Deontology in Physiotherapy; b) Legal framework as it is published by the Panhellenic Physiotherapy Society defining the rights and obligations of physiotherapists; c) Ethics in health professions, law and society, morality and religion, human rights; d) potentials for personal development in the physiotherapy profession; e) professional rights in public and private sectors; (f) the treatment of patients, (g) the protection of the profession from "bad" colleagues, practitioners and various types of "physicians" and "therapists" that are being polluted the physiotherapy profession, (h) recognition of unethical behaviors and protection from 'unethical' colleges; i) manage ethical issues when conducting research in health issues.

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Powerpoint presentations, e-discussions via the e-class educational platform, videos etc.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Theoretical part (lectures)</td><td>100</td></tr>
<tr><td>Lectures interactive teaching, educational visits</td><td>40</td></tr>
<tr><td>project work</td><td>30</td></tr>
<tr><td>Independent -non-directed (personal) study</td><td>30</td></tr>
<tr><td>Course total</td><td>100</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td>Evaluation methods: Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving exercise, written assignments. The assessment will take place at the end of each semester with written exams.

For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will be provided by the tutor and agreed by the student.
Language of evaluation: Greek & English (for Erasmus students)</td></tr>
</table>

5. ATTACHED BIBLIOGRAPHY

- *Suggested bibliography (Greek):*

6. Κώδικας Δεοντολογίας του Πανελληνίου Συλλόγου Φυσικοθεραπευτών.
7. Ιωάννης Πουλής, Ευγενία Βλάχου (2016) Βιοηθική Δεοντολογία και Νομοθεσία στις Επιστήμες Υγείας, Κωνσταντάρας, Αθήνα

- *Suggested bibliography (English):*

10. Gabard DL., Martin MW. (2011) Physical Therapy Ethics, 2nd ed., F Davis Company.
11. Benjamin B.E., Sohnen-Moe C. (2003). The Ethics of Touch: The Hands-on Practitioner's Guide to Creating a Professional, Safe and Enduring Practice. Lippincott Williams & Wilkins.
12. Jonsen A., Siegler M., Winslade W. (2006). Clinical Ethics: A Practical Approach to Ethical Decisions in Clinical Medicine. 6th ed. McGraw Hill Medical.
13. Judson K., Harrison C. (2009). Law & Ethics for Medical Careers. 5th ed. Career Education.
14. European Core Standards of Physiotherapy Practice (2008), European Region of the World Confederation for Physical Therapy (WCPT) Professional Issues
15. European Physiotherapy Service Standards (2008), European Region of the World Confederation for Physical Therapy (WCPT) Professional Issues

- *Related academic journals:*

15. Journal of Medical Ethics
16. European Region of the World Confederation for Physical Therapy (WCPT) Professional Issues

COURSE OUTLINE

BIOSTATISTICS

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_W03**	**SEMESTER**	**OPTIONAL MODULE WINTER**
COURSE TITLE	**BIOSTATISTICS**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	2	**4**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised knowledge -skills development
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the end of the course the students will:

- be able to understand and apply basic physical methods of statistical analysis.
- have developed the skills to choose the appropriate data processing and analysis method.
- have the ability to perform statistical analysis via PC on different statistical software packages.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas
Project planning and management
Respect for difference and multiculturalism
Respect for the natural environment
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking
Others…

- Search, analyze and synthesize data and information, using the necessary technologies
- Adapt to new situations
- Decision making
- Exercise of criticism and self-criticism
- Promote free, creative and inductive thinking

3. SYLLABUS

1. Introduction, basic concepts, subject of statistics,
2. Types of surveys and data,
3. Probability
4. Design and research protocols,
5. Types of statistical methodologies in the field of health,
6. Sample surveys,
7. Statistical Inference,
8. Descriptive statistics, PC usage in statistical analysis
9. Basic parameters and allocations,
10. Inductive statistics,
11. Variance analysis, correlations, correlation coefficient
12. Statistical tests, statistical analysis software (SPSS 15.0, Statistica, Sigma Stat, etc.)

13. T-student test 14. X-square test 15. Examples-statistical applications in physiotherapy studies.

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>- Power point presentations
-Electronic discussions via an asynchronous learning platform
- Video
- Multimedia</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td><table><tr><th>Activity</th><th>Semester workload</th></tr><tr><td>Theoretical part (lectures & tutorials)</td><td>50</td></tr><tr><td>Lectures, seminars, clinical presentations, interactive teaching, project work</td><td>50</td></tr><tr><td>Course total</td><td>100</td></tr></table></td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td>Assessment Language, Greek and English for Erasmus students
Assessment methods:
Written exam with multiple choice questions,
short answer questions
and development questions.
Written examinations take place twice a year at the end of the spring semester and in September
The written exam is 100% of the total grade of the student's assessment.
At the discretion of the teacher, it may be possible to assign optional work during the course of the semester to be taken into account in the final score.
The written exam is 100% of the total grade of the student's assessment.
At the discretion of the teacher, it may be possible to assign optional work during the course of the semester to</td></tr>
</table>

	be taken into account in the final score.

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

Greek:

1. Aliivatos G. (1953). Statistical Methodology. Publications Spyropoulos S., ATHENS.
2. Vagenas C (2002). Statistical Applications in FA. Athens.
3. Koutsoyiannis K., Noelle - Lazaridou M., Lazaridis A. (2003). Applied Statistics in Health Sciences - Welfare. Edition Hellen, Athens.
4. Nikiforidis G. (1984). Basic principles and methods of Biostatistics. University of Patras, Patras.
5. Papaioannou T. (1981). Introduction to odds and statistics. University of Ioannina, Ioannina.
6. Papaioannou T., Freddinos K. (1985). Biomedicine. Medical Publications of Litsa, Ioannina.
7. Trifolopoulos D. (1975). Medical statistics. Scientific publications Paris. Athena.

English:

1. Rosner B.(2006). Fundamentals of Biostatistics/Book and Disk
2. Kirkwood B., Sterne J (2007). Essentials of Medical Statistics Douglas Altman (Editor) (2003) Statistics with Confidence: Confidence Intervals and Statistical Guidelines (Book with Diskette for Windows 95, 98, NT)
3. Jacobas A.D. (1997). Medical Biostatistics. Bucura Mond Eds, Bucharest.
4. Nieto JF (2007). Epidemiology: Beyond the Basics M. Szklo , Eds
5. Peat J, Barton B., Elliott E. (2005). Statistics Workbook for Evidence-based Health Care, Szklo , Eds

COURSE OUTLINE

SAFETY IN HEALTH CARE

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_W04**	**SEMESTER**	**OPTIONAL WINTER MODULE**
COURSE TITLE	**SAFETY IN HEALTH CARE**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	2	**4**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Winter Semester Selection Course
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS	yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

It is expected that upon completing the course, students will:

• have the competency to describe the relationship of work with health

• have gained the skills to apply modifications to the site to promote health and safety

• have the ability and knowledge to design and implement security measures in different workplaces

• be able to recall legislation on health and safety at work and ILO conventions,

• have the appropriate knowledge and competency to apply personalized ergonomic design principles to "work-person interfaces" in different workplaces and different types of work

•be able to describe the role of physiotherapy in occupational health and safety

• Have developed the skills to propose and apply solutions in the workplace in collaboration with employers, employees and stakeholders

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

……

Others…

…….

- The aim of the course is to provide the foundation for acquiring knowledge on the recognition and assessment of the risks posed to health and safety in a workplace and the role of physiotherapy in promoting health and prevention in different settings. Are the general skills that a graduate will acquire?

• Developing the ability to search, analyze and synthesize data and information, using the necessary information and communication technologies
• Familiarization with autonomous and teamwork
• Production of new research ideas
• Ability to make decisions and adapt to new situations
• Ability to work in an international and interdisciplinary environment
• Promoting free, creative & inductive thinking

3. SYLLABUS

4. Occupational Hygiene: Presentation of the basic principles of Hygiene (main physical, chemical, biological risk factors in the workplace and presentation of methods for their prevention).
5. Prevention of transmission of infectious diseases.
   Occupational Risks - Safety at Work Work: Analysis of Risk-Hazard concepts.
   Occupational risk assessment methodology. Hazard indicators. Presentation of Occupational Risk Assessment with examples in the main areas of occupational activity. Measure physical, chemical, biological risk factors in the workplace. Ergonomics and accident prevention.
   Occupational Diseases: Presentation of the main occupational diseases as listed in national legislation (Presidential Decree 41/2012 - in compliance with Commission Recommendation 2003/670 / EC of 19.9.2003): a) diseases caused by chemical agents, b) skin diseases caused by substances and agents not included in other sites;
6. c) diseases caused by the inhalation of substances and agents not listed elsewhere; d) infectious and parasitic diseases;
7. e) diseases caused by natural agents g.
   Management - Health Systems: Introduction to the organization and administration of health services.
8. Presentation of health systems models: Greek National Health System (historical review, new data). Models of health systems in Europe.
   Legislation in Health and Safety at Work: Analysis of Greek Legislation and European Directives laying down the minimum requirements and fundamental principles in Occupational Safety, such as the principle of risk prevention and risk assessment, as well as responsibilities for employers and employees employees.
9. European guidelines are presented to facilitate the implementation of European directives as well as European standards issued by the European standardization bodies.
   Environmental Pollution and Occupational Health: Presentation of the main sources of pollution of the environment and the main pollution-related diseases.
10. Reference to common pollutants in the working environment as well as prevention and treatment measures in the event of an accident in excess of the limits or the occurrence of an occupational disease

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>- Power point presentations
-Electronic discussions via an asynchronous learning platform
- Video
- Multimedia</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td><table><tr><th>Activity</th><th>Semester workload</th></tr><tr><td>Lectures, Interactive teaching</td><td>50</td></tr><tr><td>Implement projects by groups</td><td>50</td></tr><tr><td>Course total</td><td>100</td></tr></table></td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td>Assessment Language, Greek and English for Erasmus students
Assessment methods:
Written exam with multiple choice questions,
short answer questions
and development questions.
Written examinations take place twice a year at the end of the spring semester and in September
The written exam is 100% of the total grade of the student's assessment.
At the discretion of the teacher, it may be possible to assign optional work during the course of the semester to be taken into account in the final score.

The written exam is 100% of the total grade of the student's assessment.
At the discretion of the teacher, it may be possible to assign optional work during the course of the semester to be taken into account in the final score.</td></tr>
</table>

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

(Greek)

1. *Hughes P., E.F. (2016). Introduction to Health and Safety at Work, 6th eds, Routledge: New York.*
2. *Kontogiannis T. (2017), Ergonomic approaches to occupational health and safety, Tziola, Greece.*

(English)

3. *Ridley J., C.J. (2008). Safety at work, 7th edn, Routledge, New York*
4. *Stranks, J., (2010). Health and safety at work: an essential guide for managers. Kogan Page Publishers*

COURSE OUTLINE

ERGONOMICS - PREVENTION OF MUSCULOSKELETAL DISORDERS

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_W05**	**SEMESTER**	**OPTIONAL WINTER MODULE**
COURSE TITLE	**ERGONOMICS - PREVENTION OF MUSCULOSKELETAL DISORDERS**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	2	**4**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Special background /Optional module
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this module the students will:

- Be aware of the Functional Tests of Occupational Injury Assessment
- Have gained the skills to assess with confidence and safety the type of musculoskeletal injury and distinguish which are the possible biological tissues involved.
- Have the knowledge and competence to prevent injuries in the workplace by understanding the causative factors and ergonomics.
- Be able to create and implement specialized (progressive) preventing physiotherapy programs.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

……

Others…

…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Team work
- Working in an international and an interdisciplinary environment
- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

The syllabus of this course focuses on a) the recognition of ergonomic mechanisms (basic and pathological patterns of attitude, ergonomic positions, musculoskeletal injuries of limbs and trunk and loads) leading to mistaken biomechanical loads and musculoskeletal injuries, and ergonomic analysis working environment (load management, stance and movement related to work, risks of accidents, lighting, thermal environment, vibrations, noise, etc.), c) anthropometry (static and dynamic (d) biomechanical loads and stress syndromes in the workplace (work in upright and seated position, work in laboratories and in Physiotherapy Clinics - Hospitals) and e) Preventive physiotherapy (Prevention of ergonomic disorders of the trunk and limbs). Particular emphasis will be given to the prevention of athletic injuries of professional athletes (and in particular the rehabilitation of functional asymmetries, the evaluation of endogenous and especially exogenous injury factors)

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Powerpoint presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Theoretical part (lectures & tutorials)</td><td>40</td></tr>
<tr><td>Lectures, seminars, clinical presentations, interactive teaching, project work</td><td>30</td></tr>
<tr><td>Independent (personal) study</td><td>30</td></tr>
<tr><td>Course total</td><td>100</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple</td><td>Theoretical part: Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work.
The assessment of the theoretical part will take place at the end of each semester with written exams. The tutor has also the option to give provisional essays/reports throughout the semester, which will account for a</td></tr>
</table>

choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	percentage of the grade of the theoretical part. For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student. **Language of evaluation:** Greek & English (for Erasmus students)

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

(Greek)

1.Κινησιολογία του Μυοσκελετικού Συστήματος: Θεμέλια της Αποκατάστασης –D.A. Neumann, Εκδ. Αθανασόπουλος & ΣΙΑ, 2018
2. Κινησιολογία. Η Μηχανική και Παθομηχανική της Ανθρώπινης Κίνησης, 3η εκδ. OatisC. Εκδ. Γκότσης, 20162. Τσακλης Π., (2005). Γενικές Αρχές Εργονομίας & Προληπτική Φυσικοθεραπεία, University Studio Press.
3. Hamill, J., Knutzen, K.M., (2005). Βασική βιομηχανική της ανθρώπινης κίνησης. Εκδόσεις Πασχαλίδης
4.. Πουλμέντης (2008) Βιολογική Μηχανική – Εργονομία.
5. Τσακλής, Π (2005). Γενικές Αρχές Εργονομίας και Προληπτική Φυσικοθεραπεία. University Studio Press.
6. Λάιος, Λ., Γιαννακούρου, Μ (2003). Σύγχρονη Εργονομία. Εκδόσεις Παπασωτηρίου.

(English)

1. Karen Jakobs (2007). Ergonomics for Therapists, Mosby Elsevier,
2. Denise Kenny Claiborne, Nancy J. Powell, and Kathleen Reynolds-Lynch (1999). Ergonomics and Cumulative Trauma Disorders: A Handbook for Occupational Therapists, Singular Publishing Group.
3. D. Alexander, R Rabourn, (2005) Applied Ergonomics. Taylor & Francis.
4. Martin Anderson (2010) Institute of Ergonomics & Human Factors. Contemporary ergonomics and human factors. CRC Press, Taylor & Francis Group.
5. Karl H.E. Kroemerand Ann Kroemer (2002) Office Ergonomics. Taylor & Francis.
6. Shrawan Kumar (1999) Biomechanics in Ergonomics. Taylor & Francis.
7. R.S. Bridger. (2003) introduction to Ergonomics. Taylor & Francis.

- Related academic journals:

- Journal of Ergonomics
- Ergonomics
- Apllied ergonomics
- International Journal of Industrial Ergonomics
- International Journal of Human Factors and Ergonomics
- Accident Analysis and Prevention
- Theoretical Issues in Ergonomics Science
- Reviews of Human Factors and Ergonomics
- Physiotherapy
- Physical Therapy

COURSE OUTLINE

SCIENTIFIC WRITING

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_W06**	**SEMESTER**	**OPTIONAL WINTER MODULE**
COURSE TITLE	**SCIENTIFIC WRITING**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	2	**4**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised knowledge -skills development
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this module the students will:

- Have gained the skills to perform literature review using scientific databases.
- Have the knowledge to understand and recognize the structure and key elements of an article (research article and review
- Have develop the skills to write a small bibliographic review based on primary sources.
- Be able to follow the code of conduct governing a scientific work.
- Be competent in using the scientific reason for writing a scientific work
- Have the competency to describe the development of science writing strategies.
- Be aware of the importance of scientific writing and its influence on the organization, use and distribution of scientific knowledge and information.
- Have developed the appropriate skills to communicate specific knowledge and information to a non-specialized audience.
- Have gained the ability to recognize the role of science in public communication and discussion.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Team work
- Working in an international and an interdisciplinary environment

- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

This course aims to educate students in the scientific writing and presentation of a scientific paper (Literature Review, Research Work). This lesson focuses on the teaching of the fundamental elements of effective scientific writing. The lesson teaches the students how to write and present effectively, concisely and clearly a true scientific text. Students will be trained in ways to search for literature / bibliography through scientific databases (PubMed, ScienceDirect, Google Scholar, etc.) to organize and understand the material appropriately, to quote sources, to avoid plagiarism, to use proper academic writing and oral expression. The students will also be trained in the use of automated reporting systems (eg EndNote, Mendeley). Students choosing this lesson should attend the weekly lecture and complete some short writing and editing exercises, including the writing of a scientific article, and present this scientific paper.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Powerpoint presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc.
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	

Activity	*Semester workload*
Theoretical part (lectures & tutorials)	**40**
Lectures, seminars, clinical presentations, interactive teaching, project work	30
Independent (personal) study	30
Course total	**100**

STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	**Theoretical part:** Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work. The assessment of the theoretical part will take place at the end of each semester with written exams. The tutor has also the option to give provisional essays/reports throughout the semester, which will account for a percentage of the grade of the theoretical part. For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student. **Language of evaluation:** Greek & English (for Erasmus students)

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

(Greek)

- Θεοφιλίδης Χρήστος (2005) Η Συγγραφή Επιστημονικής Εργασίας: Από Τη Θεωρία Στην Πράξη
- Creswell, J. (2016). Η Έρευνα στην Εκπαίδευση. Σχεδιασμός, Διεξαγωγή και Αξιολόγηση Ποσοτικής και Ποιοτικής Έρευνας (Επιμ.: Χ. Τσορμπατζούδης, 2η έκδ.). Αθήνα: Ίων.
- Δαφέρμος, Μ., & Τσαούσης, Γ. (χχ). Οδηγός συγγραφής διπλωματικών εργασιών και διδακτορικών διατριβών. Ρέθυμνο: Τμήμα Ψυχολογίας Παν/μίου Κρήτης.
- Ευδωρίδου, Ε., & Καρακασίδης, Θ. (2018). Ακαδημαϊκή γραφή (3η έκδ.). Αθήνα: Τζιόλας.

(English)

- Katz, Michael Jay by, D., Meldrum, C (2009). From Research to Manuscript, A Guide to Scientific Writing, Springer.
- Robert A. Day and Barbara Gastel (2006) How to Write and Publish a Scientific Paper.
- Angelika H. Hofmann (2016) Scientific Writing and Communication, Oxford University Press.
- Scott L. Montgomery. The Chicago Guide to Communicating Science. University Of Chicago Press, 2003. ISBN-10: 0226534847.
- Stuart Firestein. Ignorance: How It Drives Science. Oxford University Press, 2012. ISBN-10: 0199828075.
- Rebecca Skloot, Floyd Skloot, Jesse Cohen (eds.) The Best American Science Writing 2011. Ecco, 2011. ISBN-10: 0062091247.
- Thomas A Easton (editor) Taking Sides: Clashing Views in Science, Technology, and Society. 10th edition. McGraw-Hill/Dushkin, 2011. ISBN-10: 0078050278.

COURSE OUTLINE

HEALTH PSYCHOLOGY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_W07**	**SEMESTER**	**OPTIONAL WINTER MODULE**
COURSE TITLE	**HEALTH PSYCHOLOGY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	2	**4**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised knowledge/Optional module
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this module the students will:

- Have gained the competency in achieving the concept of psychological terms, as well as different psychological theories.
- Have the skills of Informing them about the limits of physiological and pathological behavior.
- Have obtained the knowledge required in order to understand the role of the illness in the individual's mental health, through the knowledge that the individual is a single psychosomatic entity.
- Have the skills to recognize the value of their interpersonal relationships in their workplace.
- Have achieved the ability to distinguish pathological behavior, as well as the ability to control crisis situations, which are related to their professional space.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas
Project planning and management
Respect for difference and multiculturalism
Respect for the natural environment
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking
……
Others…
…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Team work
- Working in an international and an interdisciplinary environment
- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

The course includes the following sections:
1. The science of psychology, the branch of health psychology.
2. Health and behavior-Maintaining health.
3. The relationship between individual differences and health behaviors.
4. The Psychology of Pathology-The Experience of Disease-Treating the Disease
5. Health professionals, patient's perspective and communication between healthcare professionals and patients.
6. The health and science of psychology.
7. Chronic illness and disability-The person's adaptation to this treaty.
8. End stage disease.
9. The child with health problems and his / her family.
10. Stress and health, stress and crisis management, health personnel and the person in crisis.
11. Emotional discovery.
12. The Future of Health Psychology

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Powerpoint presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc.
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	

Activity	*Semester workload*
Theoretical part (lectures & tutorials)	**40**
Lectures, seminars, clinical presentations, interactive teaching, project work	30
Independent (personal) study	30
Course total	**100**

STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	**Theoretical part:** Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work. The assessment of the theoretical part will take place at the end of each semester with written exams. The tutor has also the option to give provisional essays/reports throughout the semester, which will account for a percentage of the grade of the theoretical part. For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student. **Language of evaluation:** Greek & English (for Erasmus students)

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

(Greek)

- Αντωνίου, Α.- Στ. (Επιστημονικός υπεύθυνος), (2007). Ψυχολογία υγείας στο χώρο εργασίας, Πρόλογος Ελληνικής έκδοσης Καθηγητής Γ. Π. Χρούσος, Ιατρικές εκδόσεις, Π.Χ. Πασχαλίδης, Αθήνα.
- DiMatteo, Robin, R.(2006). Εισαγωγή στην ψυχολογία της υγείας, εκδόσεις Ελληνικά Γράμματα, Αθήνα.
- Duberstein, P.R., Masling J.M. (2007). Ψυχοδυναμικές προοπτικές στην αρρώστια και στην υγεία, εκδόσεις Gutenberg, Αθήνα.
- Καραδήμας, Ε.Χ. (2005).Ψυχολογία της υγείας, εκδόσεις Gutenberg, Αθήνα.
- Παπαδάτου, Δ. (2009). Η Ψυχολογία στο χώρο της υγείας, εκδόσεις Ελληνικά Γράμματα, Αθήνα.
- Walker, J. (c2011). Ψυχολογία της υγείας για νοσηλευτές και άλλους επαγγελματίες φροντίδας, εκδόσεις, Π.Χ. Πασχαλίδης, Αθήνα.

(English)

- Messer, D., Meldrum, C. (1995). Psychology for Nurses and Health Care Professionals. London: Prentice Hall.

- Related academic journals:

- Health Psychology Research
- International Journal of Clinical and Health Psychology
- Health Psychology
- Psychology, Community & Health

COURSE OUTLINE

HYDROTHERAPY

1. GENERAL

SCHOOL	**SCHOOL OF HEALTH REHABILITATION SCIENCES**		
DEPARTMENT	**PHYSIOTHERAPY**		
LEVEL OF COURSE	**UNDERGRADUATE**		
COURSE CODE		**SEMESTER OF STUDIES**	
COURSE TITLE	**HYDROTHERAPY**		
INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*		**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		2	4
COURSE TYPE *Υποβάθρου , Γενικών Γνώσεων, Επιστημονικής Περιοχής, Ανάπτυξης Δεξιοτήτων*	Skills development		
PREREQUISITE COURSES:	-		
TEACHING AND ASSESSMENT LANGUAGE:	Greek-English		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES		
COURSE WEBPAGE (URL)			

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the end of the course students will be able to:

• To know in detail the physical properties (hydrostatic pressure, buoyancy, resistance, chemical action of water) of water
• To understand the physiological adaptations of the human body during exercise in water.
• Understand the loads that are distributed to the human body when performing hydrotherapy exercises.
• To understand the effectiveness and indications-contraindications of hydrotherapy techniques and methods and to apply them per case and pathology.
• Understand the usefulness and indications-contraindications of the HALLIWICK hydrotherapy technique and apply them per case and pathology.
• Understand the usefulness and indications-contraindications of the BAD RAGGAZ RING METHOD hydrotherapy technique and apply them per case and pathology
• Understand the usefulness and indications-contraindications of the WATSU hydrotherapy technique and apply them per case and pathology.
• To plan a hydrotherapy program for the rehabilitation of neurological diseases.
• To design a hydrotherapy program for the rehabilitation of pediatric injuries and illnesses.
• To plan a hydrotherapy program for the rehabilitation of musculoskeletal injuries and illnesses.
• To design a hydrotherapy program for the rehabilitation of sports injuries and illnesses.

General Abilities

Λαμβάνοντας υπόψη τις γενικές ικανότητες που πρέπει να έχει αποκτήσει ο πτυχιούχος (όπως αυτές αναγράφονται στο Παράρτημα Διπλώματος και παρατίθενται ακολούθως) σε ποια / ποιες από αυτές αποσκοπεί το μάθημα;.

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

3. COURSE CONTENT

The teaching material of the theoretical course focuses a) on the analysis of the techniques and methods of hydrotherapy and b) on learning the basic principles (techniques and methods of application, advantages-disadvantages, indications-contraindications) of hydrotherapy for musculoskeletal, geriatric, neurological, pediatric and sports injuries and pathologies.

In particular, the following sections are covered in the theoretical part of the course:

• Introduction to the theory of hydrotherapy - physical properties of water as a therapeutic agent.

• Physiological adaptations of the human body during exercise in water.

• Hydrotherapy equipment (swimming pool, water approach equipment, water flotation and resistance equipment, etc.)

• Hydrotherapy applications for the rehabilitation of musculoskeletal injuries-diseases.

• Applications of the HALLIWICK hydrotherapy technique in neuromusculoskeletal physical therapy.

• Applications of the BAD RAGAZ RING METHOD hydrotherapy technique in neuromusculoskeletal physical therapy.

• Applications of the WATSU hydrotherapy technique in neuromusculoskeletal physical therapy.

• Applications of the HALLIWICK hydrotherapy technique in neuromusculoskeletal physical therapy.

In the laboratory part of the course, students are trained in the practical application of hydrotherapy techniques and methods such as:

- Basic principles of water exercise (clothing, equipment, therapist-patient role)
- HALLIWICK Technique
- BAD RAGAZ RING METHOD Technique
- HALLIWICK Technique
- WATSU Technique
- Technical hydrotherapy for the rehabilitation of neuromusculoskeletal and sports injuries.

4. TEACHING AND LEARNING METHODS - ASSESSMENT

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	▪ Power point presentations ▪ Use of artificial cross-sections Video analysis
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	

Activity	***Semester workload***
Theoretical part (Lectures & tutorials):	50
Lectures	40
Tutorials	10
Non-directed study	50
Practical part (Laboratory):	50
Total (25-30 hours per ECTS unit)	100
Total number of hours for the Course ***(25 hours of work-load per ECTS credit)***	

STUDENT ASSESSEMNT STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public*	Assessment methods: **Theoretical part:** Multiple choice, short-answer questions, practical examples analysis, essays (potential assessment methods decided by the examiner) **Practical part:** Oral examination on examples of applied motions

presentation, laboratory work, clinical examination of patient, art interpretation, other	

5. RECOMMENDED LITERATURE

Suggested bibliography:

1.Φουσεκης Κ. Γκριλιας Π., Δημητριαδης Ζ., Καλιστρατος Η (2022) Τεχνικες Μαλακων Μοριων στη Φυσικοθεραπεια, Broken Hill Publishers, Λευκωσία

2. Hougloum Peggy (2018) .Κινησιοθεραπεία-Θεραπευτικές Ασκήσεις για Μυοσκελετικές Παθήσεις. Broken Hill Publishers.

3.Brent Brotzman and Kevin E. Wilk. Κλινική Ορθοπεδική Αποκατάσταση (2014). Εκδόσεις Κωνσταντάρας

4.Αθανασόπουλος (1989). Κινησιοθεραπεία. Αθήνα

5.Kisner C, Colby LA, (2003). Θεραπευτικές ασκήσεις. Βασικές αρχές και τεχνικές. Εκδ. Σιώκης

6.Ταταράκης, Γεώργιος. "Υγιεινή και ασφάλεια της υδροθεραπείας σε λουόμενους και εργαζόμενους σε λουτρικές εγκαταστάσεις." (2021).

7.Sinclair, M. (2007). Modern hydrotherapy for the massage therapist. Lippincott Williams & Wilkins.

8.Chaitow, L. (2016). HYDROTHERAPY: Water therapy for health and beauty. Collins & Brown.

9.Juarez, E. (2020). Hydrotherapy Manual. Weimar University.

10.Campion, M. R. (Ed.). (1997). Hydrotherapy: principles and practice. Elsevier.

COURSE OUTLINES

OPTIONAL SPRING MODULES

OPTIONAL SPRING MODULES								
COURSE		WEEKLY TEACHING HOURS						
COURSE CODE	COURSE TITLE	LECTURES	TUTORIALS	LABORATORY EXERSISE	CLINICAL PRACTICE	CREDITS	WORKLOAD	ECTS
PTH_S01	EXERCISE PHYSIOLOGY	2	-	-	-	2	100	4
PTH_S02	COMPUTER SCIENCE IN HEALTHCARE	2	-	-	-	2	100	4
PTH_S03	HEALTH INTERPROFESSIONAL EDUCATION AND PRACTICE	2	-	-	-	2	100	4
PTH_S04	PROSTHETICS-ORTHOTICS	2	-	-	-	2	100	4
PTH_S05	INTELLIGENT SYSTEMS OF DECISION MAKING	2	-	-	-	2	100	4
PTH_S06	GROUP-BASED EXERCISE PROGRAMMES	2	-	-	-	2	100	4
PTH_S07	PHYSIOTHERAPY FOR THE ELDERLY	2	-	-	-	2	100	4
PTH_S10	INTRODUCTION TO CLINICAL RESEARCH	2	-	-	-	2	100	4
PTH_S09	THESIS*	4	-	-	-	4	200	8

* Students are able to select Thesis only at the last semester (8th) and it is the only course that is has 8 ECTS which is equal with 2 other Optional Modules (Students have the ability to select Thesis or 2 other optional modules).

COURSE OUTLINE

EXERCISE PHYSIOLOGY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUAT**		
COURSE CODE	**PTH_S01**	**SEMESTER**	**OPTIONAL SPRING MODULE (2nd, 4th, 6th or 8th)**
COURSE TITLE	**EXERCISE PHYSIOLOGY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	2	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Optional module
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

By the end of the course, students will:

▪ be able to master the adaptations that different types of exercise bring to the human body and plan the most efficient exercise for any intended goal.

▪ have the skills required to recognize both the immediate and long-term results the implementation of an exercise program brings about to physiological systems of the human organism

▪ be aware of the burdens each type of exercise brings on the various systems of the human organism and the factors that influence them, in order to use the exercise safely and with competency, while achieving the ideal customization for each patient.

▪ achieve the skills to adjust the exercise to the particularities of patients with chronic conditions or during the acute condition recovery phase.

▪have developed the competency to evaluate the various physical abilities by using the most effective and safest maximum or submaximal test.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

Others…

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an interdisciplinary environment
Production of new research ideas
Production of free, creative and inductive thinking
Showing social, professional and ethical responsibility and sensitivity to gender issues

3. SYLLABUS

1. Introduction to physical fitness (endurance, speed, strength, flexibility -elasticity) and the effects of physical inactivity.
2. Ways of operating the muscular system during exercise, the particular role and characteristics of different types of muscle fibers, energy sources used by the organism and different types of metabolism (aerobic, anaerobic) under conditions of physical effort.
3. Particularities in the use of energy sources as defined by duration, intensity and frequency of exercise and key points for successful exercise planning such as aerobic and anaerobic threshold and maximum oxygen uptake.
4. The effect of extrinsic and intrinsic factors that cause short and long -term exercise adjustments, as well as basic exercise methods that favour the achievement of specific directional goals (eg empowerment, improvement of aerobic capacity, control of body mass and composition, maintaining bone density, etc.).
5. Effects of different types of exercise on individual systems of the human body (cardiovascular, respiratory, hormonal, nervous, muscle, immune), with the presentation of the adjustments achieved and the setting of safe limits of the exercise load. Implications of excessive exercise. Main evaluation tests of individual physical abilities
6. Nutritional ingredients associated with performance in a structured exercise program. Broad reference to dietary supplements and ergogenic aids and possible risks from their use. Thermoregulation during exercise and prevention from high or low ambient temperature disturbances.

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face-to-face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Use of ICT in teaching

Power point presentations

Video
Multimedia
Available digital lesson material to students through the e-class platform</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures, seminars, Discussion</td><td>60</td></tr>
<tr><td>Individual and group work</td><td>20</td></tr>
<tr><td>Non-guided (independent) study</td><td>20</td></tr>
<tr><td>Course total</td><td>100</td></tr>
</table>
</td></tr>
</table>

STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other*	Assessment methods: Multiple Choice Test, Quick Response Questions, Development Questions, Problem Solving, Development Issues, Written Work (Potential Assessment Methods Selected by Teacher). Written examinations take place twice a year: at the end of the spring semester, and in September. Assessment Language: Greek and English for Erasmus Students For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student.
Specifically-defined evaluation criteria are given, and if and where they are accessible to students.	The written examination consisted of 100% of the total grade of the student's assessment. At the discretion of the tutor, he / she may be given the option of assigning optional work during the course of the semester to be taken into account in the final grade.

5. ATTACHED BIBLIOGRAPHY

Related academic journals:

1. Journal of Applied Physiology
2. Medicine and Science in Sport & Exercise
3. American Journal of Sports Medicine
4. Exercise& Science Sports Reviews
5. Sports Medicine
6. British Journal of Sports Medicine
7. Journal of Exercise Science & Fitness
8. International Journal of Applied Exercise Physiology
9. Journal of Biology of Exercise

COURSE OUTLINE

COMPUTER SCIENCE IN HEALTHCARE

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_S02**	**SEMESTER**	**OPTIONAL SPRING MODULE**
COURSE TITLE	**COMPUTER SCIENCE IN HEALTHCARE**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	2	**4**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Winter Semester Optional Course
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS	yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the end of the course students will:

• have the ability to become familiar with modern applications of medical technology systems and integrated software applications in the field of physiotherapy, either as stand-alone applications or as parts of the high-tech equipment used in Rehabilitation.

• can apply the basic principles of Health Informatics to Physiotherapy information systems.

• They have acquired the appropriate knowledge and skills to be able to understand and use information systems for storing and retrieving data as well as virtual reality and teleworking systems.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

• Developing the ability to search, analyze and synthesize data and information, using the necessary information and communication technologies

• Familiarization with autonomous and teamwork

• Production of new research ideas

• Ability to make decisions and adapt to new situations

• Ability to work in an international and interdisciplinary environment

• Promoting free, creative & inductive thinking

3. SYLLABUS

1. Basic Principles of Biomedical Technology
   Introduction to biomedical technology and biomedical engineering, representative biomedical technology systems (examples of medical devices, key features, use, mode of

operation, potential risks), management of biomedical equipment, classification (therapeutic, preventive, promotional technologies), modern biomedical technology management systems, existing applications in Greece

2. Basic Principles of Computer Use
Introduction to the basic concepts of IT, hardware and software, operating systems, word processing applications, data processing with spreadsheets, presentations, data organization, databases and database management systems, collection and management of biomedical data
3. Information Systems
Organization and information, system concept, information system, integrated management information systems, security of information systems (security of equipment and access to data - rights and authorization management, backups, personal computer protection, uninterruptible power supplies, communication security -Cryptography, network and data security)
4. Health Information Systems
Health and Information Systems, Health Information Systems, Hospital Information Systems: Subsystems, Features, Applications (Patient Management, Material / Warehouse Management, Accounting Monitoring)
5. Artificial Intelligence and Medicine
Introduction to Artificial Intelligence-Basic Principles, Artificial Intelligence in the Service of Health-Present and Future, Neural Networks in Medicine, Modern Clinical Support Services, Integrated Software Systems for Decision Support
6. Virtual Reality Systems
Introduction to simulation and virtual environment, simulation of physiological systems, implementation of virtual reality in health, virtual reality systems-examples, simulation applications for spinal disorders
7. Medical Imaging Systems
Principles of imaging methods, applications and necessity of imaging methods in medicine, basic medical imaging systems, X-rays and newer imaging methods, medical imaging management and processing, DICOM standard, PACS system
4. Telemedicine Systems
Decentralized hospitalization models, management and alarm software, telemedicine system 'FILIPPOS', modern telemedicine applications, personalized systems using mobile phones
5. Medical Technology Systems in the field of Physiotherapy
Basic principles of rehabilitation engineering, bionics, new technologies in rehabilitation-contribution to rehabilitation of the neuromuscular system, applications in objective motion counting and walking analysis, smart devices and application in physiotherapy: intelligent control of physical exercise of patients during rehabilitation, examples and applications used in the clinical practice or in the trial phase as they arise from modern literature and case studies,
6. Safety of Biomedical Technology Systems
Quality assurance of medical data, security and confidentiality issues, safety of biomedical technology equipment, certifications and international standards, patient and user protection, accident prevention, alert system and reporting of adverse events of medical equipment

7. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>-Lectures and presentations using ICT
-interactive sessions through
platform asynchronous education
-Acquainting with pilot projects on the PC at
issues related to Physiotherapy
-Use of ICT in communication with students
-Available digital material of the course at
students at the eclass e-learning platform</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td><table><tr><td>Theoretical part (lectures & tutorials)</td><td>50</td></tr><tr><td>Lectures, seminars, clinical presentations, interactive teaching, project work</td><td>50</td></tr><tr><td>Course total</td><td>100</td></tr></table></td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td>Assessment Language, Greek and English for Erasmus students
Assessment methods:
Written exam with multiple choice questions,
short answer questions
and development questions.
Written examinations take place twice a year at the end of the spring semester and in September
The written exam is 100% of the total grade of the student's assessment.
At the discretion of the teacher, it may be possible to assign optional work during the course of the semester to be taken into account in the final score.

The written exam is 100% of the total grade of the student's assessment.
At the discretion of the teacher, it may be possible to assign optional work during the course of the semester</td></tr>
</table>

	to be taken into account in the final score.

8. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

1.Poulis G., Meimeti E., Informatics in Health, Publishers Konstantaras, 2017
2.Apostolakis I., Information Systems of Health, Papazisis Publications, 2007
3.Mantas I., Introduction to Information Technology, Paschalidis Publications, 2007
4.Kapopoulos D., Contribution of Informatics to Health, Diavlos Publishing, 2016
5.Koutsojannis K., Technology in Health and Welfare Sciences, Hellenic Publications, 2002
6.Koutsouris D., Pavlopoulos S. Prentza A., Introduction to Biomedical Technology and Medical Signal Analysis, Tziola Publications, 2003
7.Gorgetsis, Medical Informatics & Telemedicine Services, Dissigma Publishing, 2014
8.Aggelidis P., Medical Informatics, volume A, Sofia, 2011
9.Lazakidou A., Health in the Digital Age: Information Systems of Hospitals, 2013

Recommended Foreign Language Bibliography:

1.ScortlifeE, Perreault L., Wiederhold G., Fagan L., Medical Informatics: Computer Applications in Health Care and Biomedicine, Health Informatics, 2008
2. Bemmel J., Musen M., Handbook of Medical Informatics, Springer, 2008
3. Enderle J., Blanchard S., Bronzino J., Introduction to Biomedical Engineering, 2nd Ed. Elsevier Academic Press, Amsterdam, 2005
4. Friedman M., Principles and Models of Biological Transport, 2nd Edition, Springer Verlag., 2008
5. Hoyt R., Sutton M., Yoshihashi A., Medical Informatics: Practical Guide for the Healthcare Professional, 3rd Ed., Lulu, 2008

COURSE OUTLINE

HEALTH INTERPROFESSIONAL EDUCATION AND PRACTICE

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_S03**	**SEMESTER**	**OPTIONAL SPRING MODULE**
COURSE TITLE	**HEALTH INTERPROFESSIONAL EDUCATION AND PRACTICE**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	2	**4**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised knowledge/Optional module
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this module the students will:

- be able to work as members of an Interdisciplinary Health Care Group to provide patient-centered care.
- Have the skills to identify and develop a productive relationship with other Health Scientists, recognizing their different roles and responsibilities for patient care.
- Have the ability to determine specialized care and treatment in a holistic context, including human factors.
- Be able to contribute to patient safety by improving communication skills and collaboration between health sciences that are responsible for the same patient.
- Have the competency to develop appropriate awareness of the diversity of expertise that supports the effective interdisciplinary collaboration of the Health Team.
- Have achieved the skills to analyze the positive and negative aspects of interactions between health professionals and patients, families and communities.
- Have obtained the knowledge and ability to identify the basic concepts of effective teamwork between health sciences with emphasis on communication and teamwork
- Have the ability to recognize the emerging concept of interdisciplinary ethics and professionalism as the basis of cooperative practice among healthcare professionals
- Have gained the knowledge to understand the impact of their personality, their preferences and their communication, performance as a team leader and / or a team member.
- Have gained in depth understanding of the cognitive and value framework that characterizes the professional roles of physical therapists, doctors, physicians, nurses, occupational therapists, speech therapists, social workers and all other health scientists, as well as impact interdisciplinary, level communication.
- Have the ability to recognize and act as a multidisciplinary team through leadership, microsystems, conflict management, transport and communication.
- Have developed the skills to evaluate the role of interdisciplinary teams in the organization and future of health care
- Have the competency to identify when a group is productive
- Be aware of conflict management techniques that arise in healthcare groups due to different values between health sciences
- Understand how the individual contributes to team performance using the human factor.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Team work
- Working in an international and an interdisciplinary environment
- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

The overall objective of the course is to provide a basis for making clinical decisions in a Health Sciences group environment, integrating the theories of Interdisciplinary Education and Practice. Incorporating documented theories and practices offers students the opportunity to be trained using the knowledge and skills of each Health Scientist to work as members of an Interdisciplinary Team that aims at implementing the components of a treatment plan or therapeutic intervention focused on the patient.

Specific goals

● Identify clearly their roles and responsibilities to patients, families and other professionals.

● Identify the limitations of each health scientist's skills, knowledge and skills to frame the role and responsibility of each member of the team.

● Identify the details of an appropriate treatment plan.

● Identify and implement appropriate methods of communication between health sciences as well as between health sciences and patients, careers.

● Identify the role of continuing scientific and interdisciplinary development to improve the performance of Interdisciplinary Health Teams.

Developing appropriate teamwork skills is a key requirement of the modern Health Scientist. Collaborative practice has proven to strengthen health systems and improve the outcomes of primary, secondary and tertiary health care. Interdisciplinary Education and Practice occurs when two or more health care branches are given the opportunity to function as a team. The

Interdisciplinary Health Team is based on Interprofessional Education and Practice and helps to provide basic knowledge to students about clinical decision making through the Health Sciences Co-operation Group. The course implements the principles of Interprofessional Education and Practice by providing knowledge on the use of professional communication skills between Health Sciences in clinical settings. The course defines the roles and responsibilities of Health Sciences working in a team, the components of an individualized patient-centered treatment plan, the management of the moral dilemma, and the associated resources required to meet specific patient care needs

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Powerpoint presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc.</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Theoretical part (lectures & tutorials)</td><td>40</td></tr>
<tr><td>Lectures, seminars, clinical presentations, interactive teaching, project work</td><td>30</td></tr>
<tr><td>Independent (personal) study</td><td>30</td></tr>
<tr><td>Course total</td><td>100</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</td><td>Theoretical part: Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work.
The assessment of the theoretical part will take place at the end of each semester with written exams. The tutor has also the option to give provisional essays/reports throughout the semester, which will account for a percentage of the grade of the theoretical part.
For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided</td></tr>
</table>

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.	by the tutor and agreed by the student. **Language of evaluation:** Greek & English (for Erasmus students)

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

(Greek)

10. Dessler Gary, «ΔΙΑΧΕΙΡΙΣΗ ΑΝΘΡΩΠΙΝΟΥ ΔΥΝΑΜΙΚΟΥ» 2014, ΕΚΔΟΣΕΙΣ ΚΡΙΤΙΚΗ Σαρρής, Ν. (2007). Μάνατζμεντ Ανθρώπινων Πόρων, Εκδόσεις Έλλην, Αθήνα.
11. Παπαλεξανδρή, Ν. και Μπουραντάς, Δ. (2002). Διοίκηση Ανθρώπινων Πόρων. Εκδόσεις Μπένου, Αθήνα.
12. Υφαντόπουλος, Ι.Ν. (2003). Τα Οικονομικά της Υγείας: Θεωρία και Πολιτική. Αθήνα: Τυπωθήτω - Γιώργος Δάρδανος.
13. Sallivan, E.G. & Decker, P.G. (2005). Αποτελεσματική ηγεσία και Διοίκηση Υπηρεσιών υγείας. ΙΙ Ελληνική έκδοση. Μ. Γκιούρδας Αθήνα.
14. Τούντας, Γ. (2008). Υπηρεσίες Υγείας. Αθήνα: Εκδόσεις Οδυσσέας / Νέα Υγεία.
15. Rice, T. (2006) Τα Οικονομικά της Υγείας σε Επανεξέταση (Επιστημονική Επιμέλεια: Μ. Ματσαγγάνης). Αθήνα: Εκδόσεις Κριτική.
16. Σιωμκος, Γ (2004). Στρατηγικό μάρκετινγκ (2η έκδοση). Εκδόσεις Σταμούλης

(English)

1. C. Scott Smith, Winslow G. Gerrish, William G. Weppner (2015) Interprofessional Education in Patient-Centered Medical Homes: Implications from Complex Adaptive Systems Theory, Springer International Publishing.
2. Sioban Nelson, Maria Tassone, Brian D. Hodges., (2014) Creating the Health Care Team of the Future: The Toronto Model for Interprofessional Education and Practice, ILR Press
3. Theresa J.K. Drinka , Phillip G. Clark (2016),. Healthcare Teamwork: Interprofessional Practice and Education 2nd Edition, Praeger.
4. Caroline Carlisle (2004). Interprofessional Education: An Agenda for Health Care Professionals Paperback, Quay Books,a division of Mark Allen Publishing Ltd.

References

1. Al-Qahtani, M. F. (2016) 'Measuring healthcare students' attitudes toward interprofessional education', Journal of Taibah University Medical Sciences. Elsevier Ltd, 11(6), pp. 579–585. doi: 10.1016/j.jtumed.2016.09.003.
2. Anderson, E. S. (2016) 'Evaluating interprofessional education: An important step to improving practice and influencing policy', Journal of Taibah University Medical Sciences. Elsevier Ltd, 11(6), pp. 571–578. doi: 10.1016/j.jtumed.2016.08.012.
3. Birk, T. J. (2017) 'Principles for Developing an Interprofessional Education Curriculum in a Healthcare Program', Journal of Healthcare Communications, 02(01), pp. 1–4. doi: 10.4172/2472-1654.100049.
4. Guraya, S. Y. and Barr, H. (2018) 'The effectiveness of interprofessional education in healthcare: A systematic review and meta-analysis', Kaohsiung Journal of Medical Sciences. Published by Elsevier Taiwan LLC, 34(3), pp. 160–165. doi: 10.1016/j.kjms.2017.12.009.
5. Judge, M. P. et al. (2015) 'Evaluation of students' receptiveness and response to an interprofessional learning activity across health care disciplines: An approach toward team development in healthcare', International Journal of Nursing Sciences. Elsevier Ltd, 2(1), pp.

93–98. doi: 10.1016/j.ijnss.2015.01.003.
6. Judge, M. P., Polifroni, E. C. and Zhu, S. (2015) 'Influence of student attributes on readiness for interprofessional learning across multiple healthcare disciplines: Identifying factors to inform educational development', International Journal of Nursing Sciences. Elsevier Ltd, 2(3), pp. 248–252. doi: 10.1016/j.ijnss.2015.07.007.
7. Soubra, L. et al. (2017) 'Effect of Interprofessional Education on Role Clarification and Patient Care Planning by Health Professions Students', Health Professions Education. Elsevier B.V., 4(4), pp. 317–328. doi: 10.1016/j.hpe.2017.12.005.
8. Thistlethwaite, J. E. (2015) 'Interprofessional education: Implications and development for medical education', Educacion Medica. Elsevier España, S.L.U., 16(1), pp. 68–73. doi: 10.1016/j.edumed.2015.04.007.

- Related academic journals:

- Journal of Interprofessional Education & Practice
- Journal of Interprofessional Care
- Health and Interprofessional Practice

COURSE OUTLINE

PROSTHETICS-ORTHOTICS

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PHT_S04**	**SEMESTER**	**OPTIONAL SPRING MODULE (2nd, 4rth, 6th or 8th)**
COURSE TITLE	**PROSTHETICS-ORTHOTICS**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	2	**4**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Special background /Optional module
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes
The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.
Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of the course students will:

▪ have acquired the appropriate skills to apply the basic principles of rehabilitation of musculoskeletal and neurological diseases through orthotic equipment.

▪ have the ability to apply the basic principles of rehabilitation of disabilities and other ailments through prosthetic equipment.

▪ have acquired the knowledge and familiarity with all types of orthosis and their characteristics, in order to deepen the reasoning of evaluation and selection (decision making) of the appropriate orthotic or prosthetic technological solution in each patient.

▪ will be able to participate in the interdisciplinary team of specialists who design or select the appropriate orthotic or prosthetic device and who then participate in the retraining of patients' functionality through the use of mediators

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and	*Project planning and management*
information, with the use of the necessary technology	*Respect for difference and multiculturalism*
Adapting to new situations	*Respect for the natural environment*
Decision-making	*Showing social, professional and ethical responsibility and*
Working independently	*sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

Developing the ability to search, analyze and synthesize data and information, using the necessary information and communication technologies
• Familiarization with autonomous and teamwork
• Production of new research ideas
• Ability to make decisions and adapt to new situations
• Ability to work in an international and interdisciplinary environment
• Promoting free, creative & inductive thinking

3. SYLLABUS

I. Introduction

1. Introduction to rehabilitation
Key diseases of the bones, joints and limbs, physiological / pathological movement and muscular function, neurological and musculoskeletal injuries, support of body parts through special equipment, alleviation of arduous conditions, basic principles of orthotic and prosthetic restoration, goals and results
II. Orthotic
2. General principles of orthotics and biomechanics of formation
Objectives and types of orthotics, nomenclature, materials, basic elements of the biomechanics of uprightness (stability, rotation, transversal and axial forces, ground reaction forces)
3. Corrective restoration equipment
Orthotics of the lower limb, orthogonal upper limb, spine orthotics, traditional metal prostheses, thermoplastic orthotics, passive passageways, indications and contraindications for case-by-case use, application parameters
4. Therapeutic approach through orthotics
Walking cycle, normal walking assessment, restoration of kinetic dysfunctions by serious neurological injuries, restoration of specialized musculoskeletal injuries, cases of orthopedic anomalies and support through special orthotic equipment
III. Prosthetic
5. Basic principles and types of limbs
Purpose prosthesis, additional members and prosthetic device, prosthetic features for upper and lower extremities, prosthetic foot design, SACH foot model
6. Case and clipping
Role of the casing, physical, mechanical and technical requirements, case types, restraint systems
7. Upper and lower limb replacement in patients with amputation or genetic abnormality
Causes and levels of amputation, amputation and physiotherapeutic rehabilitation - rehabilitation stages, role of physiotherapist, re-training of functionality in amputated patients
IV. Advanced methods of recovery
8. New technologies in orthotics and prosthetics
Bionic artificial members, robotic prosthetic members, myoelectric upper limb prostheses, 'intelligent' prosthetic foot, case studies

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face to Face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>♣ Lectures and presentations using ICT
♣ interactive sessions through
platform asynchronous education
♣ Use of ICT in communication with students
♣ Available digital material of the course at
students in the e-class e-class e-class platform</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lecture, dialogue, discussion, analysis and discussion of clinical incidents</td><td>40</td></tr>
<tr><td>Individual and group work</td><td>30</td></tr>
<tr><td>Non-guided (independent) study</td><td>30</td></tr>
<tr><td>Course total</td><td>100</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td>The assessment of the theory will be done at the end of each semester in the form of written examinations.

At the discretion of the teacher, it may be possible to assign optional work during the course of the semester to be taken into account in the final score.

For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student.</td></tr>
</table>

5. ATTACHED BIBLIOGRAPHY

<u>*Recommended Greek Bibliography:*</u>

1. BOARD OF DIRECTORS Korres, Γ.Π. Lyritis, P.N. Sukkakos, Orthopedics and Traumatology musculoskeletal system, Konstantaras Medical Publications, 2010
2. G. Kontakis, Orthopedic Trauma, Konstantaras Medical Publishing, 2016
3. Hatzipavlou A., Kontakis G., Orthopedic traumatology I-Bones and joint joints, Paschalidis Publishing, 2006

<u>*Recommended Foreign Language Bibliography:*</u>

1. Lusardi and Nielsen, Orthotics and Prosthetics in Rehabilitation, 2nd ed., Butterworth-Heinemmann, 2000
2. Seymour R., Prosthetics and Orthotics: Lower Limb and Spine, Lippincott ed., 2002
3. Whittle M, Gait Analysis: An Introduction, Butterworth-Heinemann Ltd, 1991
4. Perry J and Burnfield J., Gait analysis: Normal and pathological function, 2010
5. Smidt G.L., Clinics in Physical Therapy: Gait in Rehabilitation, Churchill Livingstone, Elsevier Health Sciences, 1990
6. Herr H, Exoskeletons and orthoses: classification, design challenges and future directions. J NeuroengRehabil., 6 (1): 21, 2009
7. Somers M., Spinal Cord Injury: Functional Rehabilitation, 3rd ed., 2002
8. Hong Liu et al., On the development of intrinsically-actuated, multisensory dexterous robotic hands, Robomech J, 3: 4, 2016
9. Erika Nathalia Gama Melo et al., Anthropomorphic robotic hands: A review, Ingeniería y Desarrollo, Universidad del Norte. Vol. 32 (2): 279-313, 2014
10. Mohd Azuwan et al., Recent Trends in Lower-Limb Robotic Rehabilitation Orthosis, Robotics 3: 120-148, 2014
11. Hugh Herr, Chapter 5: Cyborg Technology, Biomimetic Orthotic and Protective Technology, MIT Media Lab, in Biologically Inspired Intelligent Robots, SPIE Press, 2003

COURSE OUTLINE

INTELLIGENT SYSTEMS OF DECISION MAKING

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_S05**	**SEMESTER**	**OPTIONAL SPRING MODULE**
COURSE TITLE	**INTELLIGENT SYSTEMS OF DECISION MAKING**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES	2	**4**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised knowledge -skills development
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

Upon completion of the course students will

- have acquired the skills to apply the basic principles of Artificial Intelligence in the field of Physiotherapy and Health Rehabilitation in general.
- have the knowledge to delve into the rationale for evaluating and selecting the appropriate approach and application of effective Machine Learning algorithms in PC based on the latest scientific data.
- be able to understand and apply the basic principles of use of robotic systems used in recent years in the Rehabilitation of Musculoskeletal and mainly Neurological diseases.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

• Developing the ability to search, analyze and synthesize data and information, using the necessary information and communication technologies
• Familiarization with autonomous and teamwork
• Production of new research ideas
• Ability to make decisions and adapt to new situations
• Ability to work in an international and interdisciplinary environment
• Promoting free, creative & inductive thinking

3. SYLLABUS

Theoretical part

1. Introduction to Artificial Intelligence

Definition of Artificial Intelligence, Approaches, Major Developments, Problem Description and Search for a Solution

2. Representation of knowledge and reasoning

Basic principles of knowledge representation, types of reasoning, propositional logic, categorical

calculus, mechanism for deducting conclusions, structured representations of knowledge, rules systems
3. Fuzzy logic
Fuzzy logic and theory of fuzzy sets, vague reasoning and systems, applications
4. Mechanical learning
Categories of learning engineered algorithms, decision tree learning (DTL), the knowledge extraction tool interface from WEKA data
5. Neural Networks
Biological neural networks, artificial neuron model, basic properties of neural networks, applications in medicine
6. Genetic algorithms
Functioning of genetic algorithms, problem solving with genetic algorithms, efficiency and efficiency
7. Experienced systems
Structure and function, desirable features, experienced system and conventional programs, experienced system and people-experts, knowledge base, tools and process development of experienced system
8. Intelligent decision-making systems and their application to medical practice
Objective, evolution of approaches, categories of clinical decision support systems (CDSS) and typical features, typical examples, case studies
9. Intelligent Bioassay Analysis and Intelligent Programming
Biomedical signals, sampling and analog-to-digital conversion, types of noise in biomedical signals and measurement effect, examples of training and classification, control of successful system classification - sensitivity and specialization calculation, examples of intelligent bioassay analysis: electromyography, electroencephalography HER) and electrocardiogram (ECG)
10. Artificial Intelligence Applications in Health and Physiotherapy
Artificial Intelligence in the Service of Health - Present and Future, Intelligent Systems and Application to Physiotherapy: Intelligent Physical Exercise Control for Rehabilitation in Patients, Advanced Mechanical Learning Issues and Decision Support, Approach by Developing Fuzzy Logic Systems

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	- Lectures and presentations using ICT - interactive sessions through platform asynchronous education - Acquainting with pilot projects on the PC at issues related to Physiotherapy - Use of ICT in communication with students - Available digital material of the course at students at the eclass e-learning platform
	Activity | ***Semester workload***

TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	Theoretical part (lectures & tutorials)	50
	Lectures, seminars, clinical presentations, interactive teaching, project work	50
	Course total	**100**
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Assessment Language, Greek and English for Erasmus students Assessment methods: Written exam with multiple choice questions, short answer questions and development questions. Written examinations take place twice a year at the end of the spring semester and in September The written exam is 100% of the total grade of the student's assessment. At the discretion of the teacher, it may be possible to assign optional work during the course of the semester to be taken into account in the final score. The written exam is 100% of the total grade of the student's assessment. At the discretion of the teacher, it may be possible to assign optional work during the course of the semester to be taken into account in the final score.	

5. ATTACHED BIBLIOGRAPHY

- *Suggested bibliography:*

Greek :

1. Hatziligeroudis I., Koutsoyiannis K., Intelligent Programming, 2007.
2. Vlachavas I., Kefalas P., Vassiliadis N., Kokkoras F., Sakellariou H., Artificial Intelligence, 3rd Edition,

Giourdas Publishing, 2006.
3. Russell S., Norvig P., Artificial Intelligence. A Modern Approach (English Translation), 2nd Edition, Klidarithmos Publications, 2005.
4. King P., Intelligent Control, Tzoli Publishing, 2004. Treatment, Medical Publishing, Konstantaras, Athens.

English:

1. Remco R. Bouckaert, Eibe Frank, Mark Hall, Richard Kirkby, Peter Reutemann, Alex Seewald, David Scuse, WEKA Manual, 2013.
2. Ian H. Witten, Eibe Frank, Mark A. Hall, Data Mining - Practical Machine Learning Tools and Techniques, 3rd Edition, Morgan Kaufmann / Elsevier, 2011.
3. Berner E., Ball M., Clinical Decision Support Systems: Theory and Practice, Springer, 2009.
4. Engelbrecht A.P., Computational Intelligence: An Introduction, Wiley, 2007.
5. Greenes R.A., Clinical Decision Support: The Road Ahead, Elsevier, 2007.
6. Konar A., Computational Intelligence: Principles, Techniques and Applications, Springer, 2005.
7. Sheikhtaheri A., Sadoughi F., Hashemi Dehaghi Z., Developing and Using Expert Systems and Neural Networks in Medicine: J Med Syst., Sep; 38 (9): 110, 2014.
8. Slavici T and Almajan B., Artificial Intelligence Techniques: An Effective New Approach to Challenging the Assessment of Complex Clinical Fields such as Airway Clearance Techniques in Cystic Fibrosis Patients, J Rehabil Med, 45: 397-402, 2013.
9. Isik H. and Arslan S., An Artificial Neural Network Classification Approach for the Use of Ultrasound in Physiotherapy, Journal of Medical Systems, 35 (6): 1333-1341, 2011
10. Nawrocka, M. Nawrocki and A. Kot, Fuzzy logic controller for rehabilitation robot manipulator, 15th International Carpathian Control Conference (ICCC), pp. 379-382, IEEE, 2014.
11. Song B., Becker M, Gietzelt M, Haux R, Kohlmann M, Schulze M, Tegtbur U, Wolf KH, Marschollek, M., Feasibility study of a sensor-based autonomous load control system for COPD patients, J Med Syst., Jan; 39 (1): 150, 2015.

COURSE OUTLINE

GROUP-BASED EXERCISE PROGRAMMS

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUAT**		
COURSE CODE	**PTH_S06**	**SEMESTER**	**OPTIONAL SPRING MODULE (2nd, 4th, 6th or 8th)**
COURSE TITLE	**GROUP-BASED EXERCISE PROGRAMMS**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
THEORETICAL PART (LECTURES)	2	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Optional module
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

By the end of the course, students will:

- be able to understand how to structure and organize a group-based exercise program according to the needs of their patients.
- have the knowledge of the basic principles of planning a group-based exercise program related to the choice of exercises, the exercise load, the number of sets, repetitions and intervals.
- be competent with the item, types and peculiarities, the equipment they can use as well as progressive techniques of therapeutic exercises.
- have achieved the skills to recognize how and where they can use group-based exercise programs so as to deal with and /or prevent progressively evolving diseases (e.g., osteoporosis), or conditions (e.g., aging).
- have the ability to apply the appropriate techniques of therapeutic exercises with the planning of group-based programs for rehabilitation and reinforcement of the basic functional capabilities (strength, power, endurance, range of motion, neuromuscular control, proprioception, etc.) of the human body.
- have the competency to develop documented therapeutic exercise programs that are safe and appropriate and provide a variety of exercises.
- Be aware of the documented techniques of group-based exercise programs for the rehabilitation of pathologies in specific population groups (e.g. people in development age, teenage age/adolescence).
- Finally, the have gained the knowledge about the psychological factors (personality type, incentives, etc.) that affect the commitment to regular lifelong physical activity and exercise.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*Others…*
Production of new research ideas	

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an interdisciplinary environment
Production of new research ideas
Production of free, creative and inductive thinking
Showing social, professional and ethical responsibility and sensitivity to gender issues

Respect for the natural environment

3. SYLLABUS

1. Introduction to the philosophy of group-based exercise programs and differences from individual - based programs. Basic elements of designing a group-based exercise program.
2. Initial assessment of patients (level of fitness /physical condition), setting goals for the exercise, planning and implementation of the program and evaluation of the results.
3. Structure and content (warming-up, selection of motor activities, recovery). Planning group-based exercises aiming at improving aerobic capacity, muscle strength and endurance, improvement of mobility, neuromuscular junction and speed. Stretching. Load elements (number of sets, repetitions, frequency and intervals).
4. Design of group -based exercise programs with emphasis on safety, appropriateness and variety of instruments and exercises. Exercise in outdoors and indoors, exercise in water. Group-based exercise programs at workplaces.
5. Group -based exercise programs for special populations (children, adolescents, adults, elderly). Particularities in the load and content of the exercise items. Group-based exercise programs for chronic diseases cardiovascular, diabetes, overweight people, etc. Indicative, as well as exercises that are contraindicated per patient category.
6. Finally, the psychological factors (personality type, motives, etc.) that affect and are affected by exercise. Systematic lifelong physical activity, health and well-being /wellness.

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face-to-face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Use of ICT in teaching

Power point presentations

Video
Multimedia
Available digital lesson material to students through the e-class platform</td></tr>
<tr><td>TEACHING METHODS

The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures, seminars, Discussion</td><td>60</td></tr>
<tr><td>Fieldwork, educational visits</td><td>30</td></tr>
<tr><td>Non-guided (independent) study</td><td>10</td></tr>
<tr><td>Course total</td><td>100</td></tr>
</table>
</td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure</td><td>Assessment methods: Multiple Choice Test, Quick Response Questions, Development Questions, Problem Solving, Development Issues, Written Work (Potential Assessment Methods Selected by Teacher). Written examinations take</td></tr>
</table>

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other	place twice a year: at the end of the spring semester, and in September. Assessment Language: Greek and English for Erasmus Students For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student.
Specifically-defined evaluation criteria are given, and if and where they are accessible to students	The written examination consisted of 100% of the total grade of the student's assessment. At the discretion of the tutor, he / she may be given the option of assigning optional work during the course of the semester to be taken into account in the final grade.

5. ATTACHED BIBLIOGRAPHY

Suggested bibliography:

1. Yang JH, Wang YQ, Ye SQ, Cheng YG, Chen Y, Feng XZ. The Effects of Group-Based versus Individual-Based Tai Chi Training on Nonmotor Symptoms in Patients with Mild to Moderate Parkinson's Disease: A Randomized Controlled Pilot Parkinsons Dis. 2017;2017

2. Sajatovic M, Ridgel AL, Walter EM, Tatsuoka CM, Colón-Zimmermann K, Ramsey RK, Welter E, Gunzler SA, Whitney CM, Walter BL. A randomized trial of individual versus group-format exercise and self-management in individuals with Parkinson's disease and comorbid depression. Patient Prefer Adherence. 2017 May 19;11:965-973.

3. Allen KD, Bongiorni D, Bosworth HB, Coffman CJ, Datta SK, Edelman D, Hall KS, Lindquist JH, Oddone EZ, Hoenig H. Group Versus Individual Physical Therapy for Veterans with Knee Osteoarthritis: Randomized Clinical Trial. Phys Ther. 2016 May; 96(5):597-608.

4. Bravo G, Gauthier P, Roy PM, Payette H, Gaulin P, Harvey M, Péloquin L, Dubois MF. Impact of a 12-month exercise program on the physical and psychological health of osteopenic women. J Am Geriatr Soc. 1996 Jul; 44 (7): 756-62.

8. Borek AJ, Smith JR, Greaves CJ, Gillison F, Tarrant M, Morgan-Trimmer S, McCabe R, Abraham C. Developing and applying a framework to understand mechanisms of action in group-based, behaviour change interventions: the MAGI mixed-methods study, Southampton (UK): NIHR Journals Library; 2019 Jun.

5. Alhambra-Borrás T, Durá-Ferrandis E, Ferrando-García M. Effectiveness and Estimation of Cost-Effectiveness of a Group-Based Multicomponent Physical Exercise Programme on Risk of Falling and Frailty in Community-Dwelling Older Adults. Int J Environ Res Public Health. 2019 Jun 13;16 (12). pii: E2086.

6. Keating LE, Becker S, McCabe K, Whattam J, Garrick L, Frey BN, Sassi RB, McKinnon MC. Impact of a structured, group-based running programme on clinical, cognitive and social function in youth and adults with complex mood disorders: a 12-week pilot study. BMJ Open Sport Exerc Med. 2019 May

21;5(1): e000521. doi: 10.1136/bmjsem-2019-000521. eCollection 2019.

7. Stødle IV, Debesay J, Pajalic Z, Lid IM, Bergland A. The experience of motivation and adherence to group-based exercise of Norwegians aged 80 and more: a qualitative study. Arch Public Health. 2019 Jun 7;77:26. doi: 10.1186/s13690-019-0354-0. eCollection 2019.

8. Schnor H, Linderoth S, Midtgaard J. Experiences with Participation in a Supervised Group-Based Outdoor Cycling Programme for People with Mental Illness: A Focus Group Study. Int J Environ Res Public Health. 2019 Feb 13;16(4). pii: E528.

9. Jordan S, Krug S, von der Lippe E. Participation in group-based physical activity programmes for adults in Germany and associated factors: data from a nationwide cohort study. BMC Public Health. 2018 Dec 12;18(1):1371.

Related academic journals:

1. International Journal Environmental Research and Public Health

2. Journal of American Geriatrics Society.

3. Physical Therapy

COURSE OUTLINE

PHYSIOTHERAPY FOR THE ELDERLY

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_S07**	**SEMESTER**	**OPTIONAL SPRING MODULE (2nd, 4rth, 6th or 8th)**
COURSE TITLE	**PHYSIOTHERAPY FOR THE ELDERLY**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
LECTURES	2	**4**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialized knowledge - skills development /Optional module
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

By the end of the module the student will:

- Have a good understanding of the effects of ageing on biological structures and skills (either mental or motor) in elderly people
- Be able to demonstrate an ability to assess an elderly patient and critically analyse clinical information as well as assessment findings of the different diseases of the elderly (frailty, osteopororis,sarcopenia, arthritis, dementia, fall risk) through clinical reasoning
- Have gained the skills to demonstrate an ability to select management approaches that are relevant to the needs and interests of the eldelry patient, with consideration of the contraindications and precautions inherent to each situation (i.e. related to ageing, the hospital and community centers)
- demontrate the skills and knowldge to apply clinical practice guidelines for addressing the rehabilitation needs of elderly people
- Be able to plan evidenced based rehabilitation programmes for elderly, with exercise, training skiils, ergonomical adaptation and consultation.
- demonstrate the ability to analyse complex problem situations and to develop justifiable adaptations of unexpected events which may occur to elderly people

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Adapting to new situations
- Decision-making
- Working independently
- Team work
- Working in an international environment
- Working in an interdisciplinary environment
- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues

- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

The curriculum of this optional **theoretical module** focuses on understanding and gaining an in depth knowledge of the physical therapeutic approach of the most common problems of elderly people; musculoskeletal problems (e.g. osteoporosis, fracture, sarcopenia, arthritis), mental and cognitive disorders (e.g. Altsheimer, depression), cardiac problems (heart failure, hypertension), neurological problems (e.e. Parkinson disease), special conditions (e.g. incontinence, abuse, social isolation, polypharmacy).

There is a strong emphasis on understanding the particular biological and perceptual characteristics of the elderly, the geriatric assessment procedures as well as the available measurement tools and scales for each given situation. The focus is on the physical therapy approach and on the evidence-based application of the most appropriate methods for the rehabilitation of the elderly in the short and long term. The interventions will be designed in order to improve activities of daily living, and quality of life, reduce falls, increase muscle strength and muscle mass and improve balance. Furthermore ergonomic intervention programmes will be designed for homes of the elderly people in order to reduce the risk and the fear of falling. Finally different exercise programmes will be designed (personal, home-based and group-based ones) specifically for elderly people.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to- face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	▪ Ηλεκτρονικές συζητήσεις μέσω πλατφόρμας ασύγχρονης εκπαίδευσης ▪ Video ▪ Use of ICT in teaching
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	

Activity	*Semester workload*
Lectures, seminars, clinical presentations, interactive teaching, project work	40
Independent (personal) study	30
Group & personal exercises/ projects	30
Course total	**100**

STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work. The assessment of the theoretical part will take place at the end of each semester with written exams. At the discretion of the tutor, it may be possible to assign optional work during the course of the semester to be taken into account in the final score. For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student. **Language of evaluation:** Greek & English (for Erasmus students)

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

Greek literature

7. Brill P.A. (2006). Σωστή άσκηση στην Τρίτη ηλικία. Salto,Αθήνα
8. Χριστοδούλου Γ.Ν., Κονταξάκης Β.Π. (2000). Η Τρίτη ηλικία. Εκδ. Βήτα, Αθήνα.
9. Peggie W. (2011). Θεραπευτική άσκηση σε Ειδικούς Πληθυσμούς, Ιατρικές Εκδόσεις Κωνσταντάρας, Αθήνα
10. Χανιώτης Δ., Χανιώτης Φ. (2013) Γηριατρική Ιατρ εκδ Λίτσας, Αθήνα

English literature

7. Guccione A., Wong R, Avers D. (2012). Geriatrics Physical Thera[y. 3rd ed. Elsevier,Mosby
8. Best-Martini E, Jones-Digenova K.A.. (2014). Exercise for frail elders. 2nd edition Human Kinetics, Champaign, Illinois.
9. David X. Cifu Henry L. Lew Mooyeon Oh-Park. (2018). Geriatric Rehabilitation 1st edition.Elsevier

- Related academic journals:

- Physiotherapy
- Age and Ageing
- Physiotherapy Theory and Practice
- BMC Geriatrics
- Archives of Gerontology and Geriatrics

COURSE OUTLINE

INTRODUCTION TO CLINICAL RESEARCH

6. GENERAL

SCHOOL	**SCHOOL OF HEALTH REHABILITATION SCIENCES**		
DEPARTMENT	**PHYSIOTHERAPY**		
LEVEL OF COURSE	**UNDERGRADUATE**		
COURSE CODE		**SEMESTER OF STUDIES**	OPTIONAL SPRING MODULE (2nd, 4th, 6th or 8th)
COURSE TITLE	**INTRODUCTION TO CLINICAL RESEARCH**		
INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*		**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
LECTURES		2	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).			
COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialized knowledge -skills development		
PREREQUISITE COURSES:	-		
TEACHING AND ASSESSMENT LANGUAGE:	Greek & English		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)			

7. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B Guidelines for writing Learning Outcomes*

Upon completion of the course students will have gained an understanding of:

- The basics in clinical research e.g. what it is, how it differs from other research, why it may be undertaken, what are the parts of a clinical research etc
- The ethical aspects in research, and how to aply the University of Patras code of ethics in their research
- Which are the most commonly used study designs
- How a protocol is written: from the idea, to literutre review, study question and full protocol
- Producing a pilot clinical research (introduction, purpose, methods, results, conclusions)
- How to perform correctly a literature review: use of bibliography and bibliographical search via e.g. Pubmed,

Medline etc

- How to use correctly reference managers, e.g. Endnote, Mendeley etc
- Statistical methods used for the analysis of results (Understand concepts of descriptive statistics that include average, mean, standard deviation, standard error, curvature, etc., explain the concept of hypothetical examination, including differential test and relational test, Know how to select and use simple paramount statistical tests such as Students t-test, Pearson coupling index, prediction equations, ANOVA, and correctly implement the non-parametric tests.)
- How to present a clinical research, e.g. in conferences or/and peer reviewed journals, in general public presentations or/and in all ages.

General Abilities

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Team work
- Working in an international and an interdisciplinary environment
- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

8. COURSE CONTENT

This course aims to educate students in the basics of clinical research. This lesson focuses on the teaching of the fundamental elements of effective clinical research. The lesson teaches the students how to plan, perform, write and present effectively, concisely and clearly a true clinical research. Students will be trained in ways to search for literature / bibliography through scientific databases (PubMed, ScienceDirect, Google Scholar, etc.) to organize and understand the material appropriately, to quote sources, to avoid plagiarism, to use proper academic writing and oral expression. The students will also be trained in the use of automated reporting systems (eg EndNote, Mendeley). Students choosing this lesson should attend the weekly lecture and complete some short writing and editing exercises, including the writing of a scientific article, and present this scientific paper.

9. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD *Face-to-face, Distance learning, etc..*	Combination of Face to face and remote education		
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in teaching, laboratory education, communication with students ς*	- Power point presentations -Electronic discussions via synchronous and asynchronous learning platforms - Video - Multimedia		
TEACHING METHODS *The manner and methods of teaching are*	***Activity***	***Semester workload***	
	Theoretical part (lectures &	**40**	

described in detail. *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	**tutorials)** | Lectures, seminars, clinical presentations, interactive teaching, project work | 30 Independent (personal) study | 30 **Course total** | **100**
STUDENT ASSESSEMNT *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other*	**Theoretical part:** Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work. The assessment of the theoretical part will take place at the end of each semester with written exams. The tutor has also the option to give provisional essays/reports throughout the semester, which will account for a percentage of the grade of the theoretical part. For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student. **Language of evaluation:** Greek & English (for Erasmus students)

10. RECOMMENDED LITERATURE

- *Suggested bibliography:*

(Greek)

1. GORDON, G., DRUMMOND, R., MAUREEN, M., DEBORAH, C. (2010): ΟΔΗΓΟΣ ΣΤΗΝ ΙΑΤΡΙΚΗ ΒΙΒΛΙΟΓΡΑΦΙΑ. Εκδόσεις Παρισιάνος, Αθήνα.
2. Σαχίνη, Α (1988) : Μεθοδολογία Έρευνας στα Επαγγέλματα Υγείας. Εκδόσεις Βήτα, Αθήνα.
3. McKenzie, BC (1998) : Ιατρική και Internet: Online Πηγές Πληροφόρησης και Ορολογία. Ιατρικές Εκδόσεις Σιώκης, Θεσσαλονίκη .
4. Creswell, J. (2016). Η Έρευνα στην Εκπαίδευση. Σχεδιασμός, Διεξαγωγή και Αξιολόγηση Ποσοτικής και Ποιοτικής Έρευνας (Επιμ.: Χ. Τσορμπατζούδης, 2η έκδ.). Αθήνα: Ίων.
5. Ζαφειροπουλος Κ., Μυλωνας Ν. (2017), Στατιστικη Με Spss, Τζιολας Α., Αθηνα
6. Δημητροπουλος, Ε. (2009), Εισαγωγη Στην Μεθοδολογια Της Επιστημονικης Ερευνας, Παρικος, Αθηνα
7. Θεοφιλίδης Χ. (2005) Η Συγγραφή Επιστημονικής Εργασίας: Από Τη Θεωρία Στην Πράξη
8. Δαφέρμος, Μ., & Τσαούσης, Γ. (χχ). Οδηγός συγγραφής διπλωματικών εργασιών και διδακτορικών διατριβών. Ρέθυμνο: Τμήμα Ψυχολογίας Παν/μίου Κρήτης.

(English)

9. Polgar, S., Thomas, S.A. (2019). Introduction to Research in the Health Sciences. Elsevier.
10. Sackett, DL, Straus, SE, Richardson, WS, Rosenberg, W, Haynes, RB, (2000). Evidence-Based Medicine. How To Practice and Teach EBM. 2nd edition. Churchill Livingtone, NY,
11. Essentials of Medical Statistics Douglas Altman (Editor), David Machin (Editor), Trevor Bryant (Editor), Stephen Gardner (Editor) (2003). Statistics with Confidence: Confidence Intervals and Statistical Guidelines (Book with Diskette for Windows 95, 98, NT).
12. Katz, M.J., Meldrum, D.C. (2009). From Research to Manuscript, A Guide to Scientific Writing, Springer.

13. Day, R.A., Gastel, B. (2006) How to Write and Publish a Scientific Paper.
14. Angelika H. Hofmann (2016) Scientific Writing and Communication, Oxford University Press.

COURSE OUTLINE

THESIS

1. GENERAL

SCHOOL	**HEALTH REHABILITATION SCIENCES**		
ACADEMIC UNIT	**PHYSIOTHERAPY**		
LEVEL OF STUDIES	**UNDERGRADUATE**		
COURSE CODE	**PTH_S09**	**SEMESTER**	**OPTIONAL SPRING MODULE 8th**
COURSE TITLE	**THESIS**		
INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*		**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
LECTURES		4	**8**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).			
COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised knowledge -skills development/Optional 8th semester		
PREREQUISITE COURSES:	-		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek & English		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=134		

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this module the students will:

- Be aware of the way in which the knowledge that is taught is generated.
- Have achieved the skills to distinguish between integrated and qualitative researches from those that are less scientifically valid and inadequately documented.
- Demonstrate the ability to develop a critical approach to the literature through the process of searching, analyzing, evaluating and finally reconstituting the published research.
- Have gained the knowledge of the methods and criteria for decoding the way knowledge is produced, and also become a more effective collaborator of lifelong learning by seeking the necessary information through valid and reliable scientifically documented sources.
- Have obtained the skills to organize questions for discussion on subjects of interest
- Be trained in exploring scientific sources
- Have the ability to evaluate and understand the materials of his work
- Have the competency to categorize the findings of a review or a clinical trail
- Be able to raise research questions based on valid scientific data regarding the science of physiotherapy.
- Demonstrate critical thinking and analysis to select valid information
- Have gained the skills to explain the deeper concepts behind the information it collects
- Become an excellent specialist in the subject of his work
- Be able to organize the time within the margins assigned to him to complete his work
- Have developed personal evaluation and assessment criteria for scientific communications
- Present and perhaps publish their study

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*

Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision making
- Working independently
- Team work
- Working in an international and an interdisciplinary environment
- Production of new research ideas
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

The course is a student's final and mature effort. The students, through Bachelor Thesis process, is trained to complete a scientifically substantiated text by deepening their knowledge in a special scientific field of Physiotherapy. It seeks to stimulate critical thinking and develop the analytical and synthetic ability of the student to develop a study. Having conquered a level of knowledge and experience in the theoretical and practical part of physical therapy, the students take the final step towards completing his or her obligations towards their Undergraduate Studies. Through the Bachelor Thesis students are given the opportunity to carry out a self-contained scientific search of a creative character which will be a result of critical and analytical thinking on a subject of physiotherapy science through the proven research using the set of theoretical and practical knowledge gained from their studies.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Powerpoint presentations, e-discussions via the e-class educational platform, videos, use of anatomical models etc.
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational*	

Activity	*Semester workload*
Theoretical part (lectures & tutorials, face to face meeting with the isntructor)	**50**
Written and presented project	150
Course total	**200**

visits, project, essay writing, artistic creativity, etc. *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	**Theoretical part:** Multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work. The assessment of the theoretical part will take place at the end of each semester with written exams. The tutor has also the option to give provisional essays/reports throughout the semester, which will account for a percentage of the grade of the theoretical part. For Erasmus students the theoretical part of the examination instead of the written examinations could be evaluated with written essays /reports as well as an oral presentation upon a specific theme, which will provided by the tutor and agreed by the student. **Language of evaluation:** Greek & English (for Erasmus students)

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

(Greek)

- 1. Μαρίνος ΜΘ (2009). Πως γραφεται μια Πτυχιακή και Μεταπτυχιακή Εργασία, Εκδόσεις Σακκουλας
- 2. Ανδρεαδάκης ΝΑ, Βάμβουκας ΜΙ (2005) Οδηγός για την εκπόνηση και τη σύνταξη γραπτής εργασίας: σεμιναριακής πτυχιακής, διπλωματικής, Εκδόσει Ατραπός.

(English)

- Katz, Michael Jay by, D., Meldrum, C (2009). From Research to Manuscript, A Guide to Scientific Writing, Springer.
- Robert A. Day and Barbara Gastel (2006) How to Write and Publish a Scientific Paper.
- Angelika H. Hofmann (2016) Scientific Writing and Communication, Oxford University Press.
- Scott L. Montgomery. The Chicago Guide to Communicating Science. University Of Chicago Press, 2003. ISBN-10: 0226534847.
- Stuart Firestein. Ignorance: How It Drives Science. Oxford University Press, 2012. ISBN-10: 0199828075.
- Rebecca Skloot, Floyd Skloot, Jesse Cohen (eds.) The Best American Science Writing 2011. Ecco, 2011. ISBN-10: 0062091247.
- Thomas A Easton (editor) Taking Sides: Clashing Views in Science, Technology, and Society. 10th edition. McGraw-Hill/Dushkin, 2011. ISBN-10: 0078050278.
- Anson C.M. and Schwegler R.A.(2014) The Longman Handbook for Writers and Readers, Pearson
- Muth MF, Schweglar RA, Anson CM (2005) The Longman Writer's Bible: The Complete Guide to Writing, Research, and Grammar, Longman