

HELLENIC REPUBLIC  
MINISTRY OF EDUCATION & RELIGION



**TECHNOLOGICAL EDUCATION INSTITUTE (T.E.I.)  
OF WESTERN GREECE**

**SCHOOL OF HEALTH & WELFARE PROFESSIONS**

**Department of Physical Therapy**



**DEGREE IN  
PHYSIOTHERAPY**

**Undergraduate Course Prospectus  
2010**



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# Department of Physical Therapy

## Undergraduate Course Prospectus 2010



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## Preface

Welcome to the Prospectus of the “Department of Physical Therapy” of the School of Health and Welfare Professions - Technological Educational Institute (TEI) of Western Greece. The science of Physical Therapy serves the prevention, improvement and rehabilitation of pathological conditions, congenital or acquired, as well as any injury deficit causing musculoskeletal, neural, cardiorespiratory and sensorimotor dysfunctions. The role of the Physical Therapist (PT), following a thorough assessment of the patient, is to plan the optimal rehabilitation strategy based on the individuals’ aims and potential. In order to optimize the functional outcome, the degree of independence and quality of life, the PT uses the appropriate physical methods, techniques and therapeutic exercise.

Our Department, is one of the four PT departments within the Greek Public Higher Education structure and co-operates with various hospitals, rehabilitation centres and the Greek Society of Physiotherapists. In terms of research, the department is actively involved in collaborative projects with other higher domestic or foreign institutes. The Academic staff members are personally involved in various scientific committees and review boards. A considerable number of the Department’s graduates have completed post-graduate studies or are currently in the process. Many of them work as PTs in other European countries, Australia or USA. Our Department is also active in student exchange programs, sending its students abroad and accepting foreign students.

We hope that this prospectus will prove helpful in outlining the academic curriculum and describing any relevant aspect of education in our institute as well as the professional status of Physical Therapy within Greece.

With kind regards

The Head of Department

Dr. Elias Tsepis  
Physiotherapist, MSc, PhD  
Assistant Professor

## Introduction

This prospectus aims to inform all physiotherapy students about the curriculum of the Physical Therapy course and the services offered by the Department of Physiotherapy of T.E.I. of Western Greece, during the whole duration of the studies.

The Physical Therapy course consists of four years of academic studies. Its basic principle is the acquisition of scientific knowledge and practical skills, which both are important for obtaining a thorough professional Physical Therapy training. The course curriculum contains a mixture of practical as well as theoretical modules, which enhance the evidence-based knowledge and provide the necessary practical framework in which students are able to work safely. When students complete the 4-year Physical Therapy course they have an extensive understanding of the physiological and structural aspects of human movement. They are also able to promote motor coordination, apply physical methods to reduce pain, perform therapeutic exercises and other specialised techniques for cardio-respiratory, musculoskeletal and neurological performance and function.

This prospectus guides the student through the course by a) presenting its modular content semester by semester, b) outlining the way each module is being assessed, and c) informing the student about the European Credit Transfer System (ECTS) Units of the modules taught. The reader could find in this prospectus the standards of proficiency of the course and gain information about the entry requirements, the Department's mission, the assessment periods, as well as other important information, such as the practical placements and the thesis writing.

We hope that you find this prospectus informative and helpful.

The Editorial Team

## The Department of Physical Ttherapy

The Department of Physical Therapy of the TEI of Western Greece (formerly TEI of Patras), was established in 2003 (Presidential Decree published in FEK 222/17-09-2003) and is situated in the city of Aigion. It is one out of four Higher Educational Institutes (the others being T.E.I.\* of Athens, Thessaloniki & Lamia) offering Physiotherapy degrees within Greece.

## Entry Requirements & Study Content

The typical entry requirements for the undergraduate Physical Therapy course are:

- i) success in Pan-Hellenic written examinations at the end of 2<sup>nd</sup> and 3<sup>rd</sup> grade of lyceum upper secondary school), which allows entry into one of the four Tertiary Education Physical Therapy Schools within Greece (according to each student's individual score and order of School preference) or
- ii) Success in specific written exams taken annually at the Physical Therapy Department; this applies for graduates of other professions/recognized higher educational institutions. The exams are taken on three specific modules (anatomy, physiology, pathology)

The study content of the Department covers the subject area of Physical Therapy science, aiming in the prevention, improvement and rehabilitation of acquired and congenital pathological conditions, as well as traumatic injuries, causing dysfunction in the skeletal, muscular, nervous, respiratory and cardiac systems.

## Mission of the Department

The mission of the Department is the promotion, development and transmission of knowledge to the profession and science of Physical Therapy, via appropriate theoretical teaching, wider laboratory and practical modules and applied research; so that the students and graduates are equipped with the necessary knowledge and skills to ensure a thorough training for their scientific and professional career and development.

Within the scope of its mission, the Department of Physical Therapy:

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\* T.E.I.s (Technological Educational Institutes) are recognised public institutes offering higher education within Greece.

- Follows the international advancements in the scientific, educational and professional fields.
- Conducts evidence-based research in the field of Physical Therapy.
- Develops co-operations with universities in the home country and abroad.
- Co-operates with production units, work administrators, who are associated with the study content.
- Uses state-of-the-art technologies in education.
- Helps the students to develop adequate abilities and skills to make them confident and competitive in a national and international environment.
- Follows all developments and changes (educational, financial and social) in the study content (of Physiotherapy) nationally and internationally.
- Is always alert to analyse, accept and incorporate new points of views so as to assure and improve the quality of studies within the Department.



### **Description of the physical therapy graduates & laws of professional conduct**

Physiotherapy graduates are automatically accepted as members of the Panhellenic Physical Therapy Association, which in turn, is an active member of the World Confederation for Physical Therapy (WCPT) as well as the European one (EU-WCPT).

The graduates of the Department of Physical Therapy at TEI of Western Greece are professionally referred to as “Physiotherapists” or “Physical Therapists” and on completion of their studies, they will have acquired the necessary scientific background and clinical knowledge, abilities and skills in order to safely and independently perform physiotherapy assessment and treatment, focussing on the prevention, improvement and rehabilitation of all pathological conditions, as well as traumatic injuries, causing dysfunction to the skeletal, muscular, nervous, respiratory and cardiac systems.

More specifically, the graduate of the Department is capable of proceeding with his/her physiotherapeutic treatment approach following written referral form from the doctor. More explicitly he/she can:

- Rehabilitate the patient, following a thorough physiotherapeutic evaluation, utilising the most efficient, appropriate and safest special means, methods and techniques, such as kinesiotherapy, manual therapy, thermotherapy and cryotherapy, electrical stimulation, biofeedback and other electrotherapeutic modalities, pain relief, ergonomic re-education of the patient and methods to enhance neuromusculoskeletal’s system functional ability.
- Evaluate the progress of the patient’s condition and alter the patient’s rehabilitation programme accordingly.

- Plan and implement research programmes, which promote the science of Physical Therapy.
- Study, plan and implement preventative and rehabilitation programmes for various disorders to individuals, groups, communities, schools and professional fields.
- Apply the rules of ethics within the Physical Therapy field.
- Train and support the patient and the patient's family, aiming to achieve the patient's functional independence.

The graduate physical therapists are entitled to work as:

- Executives of the State or within the wider public sector in accordance with any provisions that are in effect at the time.
- Executives of the private sector, as an employee or with other work relations.
- Free-lance professionals at a private physiotherapy clinic or the patient's home.
- Open a private clinic or physiotherapy centre under the provisions of the law.

The professional rights of physical therapists graduating from Physical Therapy Departments of T.E.I.s' establishments follow the rules of the state (Presidential Decree 90/95, FEK 53/08-03-95). Additionally, as previously indicated physical therapy graduates can become registered members of the Panhellenic Physical Therapy Association, which is the official independent and regulatory body for setting and maintaining standards of professional training of physical therapists within Greece. All registered members are also recognized from WCPT and EU-WCPT.

### **Framework of the Course**

The duration of the physiotherapy course is organised in 4 academic years, divided into 8 semesters; each semester being 13 weeks' long with 3 extra weeks for examinations. During the course of the first 7 semesters, the studies include theoretical education (lectures, seminars etc.), laboratory/clinical practice (clinically-based modules), seminars and clinical placements in hospitals, medical Institutions, rehabilitation centres etc. During the 8<sup>th</sup> semester, the final-year thesis (dissertation) and a 6-month practical elective placement takes place.

The course curriculum has been updated, according to the content of the state laws (published in FEK 625/18-05-2006) as well as the updated revisions required from T.E.I. of Western Greece (ref. 4449/27-04-09 & 2038/17-02010), so that the new updated curriculum conforms with the programme of studies of all schools and departments of the higher educational institutes.



The course is structured on the basis of the student's workload (WL); which is approximately up to 60 hours per week (750 hours per semester). WL for each module is estimated to be three times the amount of time for the theoretical modules (i.e. 1 hour of teaching corresponds to 3 hours of WL), and equal amount of time for laboratory/clinical modules (i.e. 1 hour of clinical/practical module corresponds to 1 hour of WL). For every module on the course of study there is a number of Teaching Units (TU) of the European Credit Transfer System (ECTS). The total number of Teaching Units of all modules within each semester is thirty (30) and is allocated to the modules in proportion to the WL.

The majority of the modules consist of a theoretical component and a practical component. The theoretical component usually involves lectures, presentations etc. by the tutor. The practical modular component includes clinical work, practical /clinical exercises, laboratory practice, tutorials, clinical case studies, individual and team essays, analysis of special issues by guest speakers, bibliographical reviews, video presentations etc, and they require obligatory participation throughout the semester. The clinically /laboratory-based modules take place in a properly fitted-out environment, where the theoretical knowledge already acquired by the students can be applied into practice. In addition, the undergraduate dissertation involves the study and examination of an up-to-date physiotherapy-related topic involving clinical and theoretical elaboration of the scientific topic, critical analysis of the literature and an evidence-based approach written on the field of study. Finally, the elective clinical placement (or Practical Training), involves a 6-month guided and supervised placement, which takes place in hospitals, rehabilitation centres and other collaborating places where physiotherapy practice takes place.

Throughout all modules, special importance is given to the individual abilities of every student, including the development of initiatives, critical thinking and their ability to solve problems.

## Modules of the Course

The modules within the course curriculum are divided into:



**Modules of General Background (GBM):** Correspond to the basic science modules which are included in the curriculum; these are Anatomy of Musculoskeletal System, Anatomy of the Nervous System & Internal Organs, Physiology, Pathology, Neurophysiology, Orthopaedics, Neurology, Surgery and First Aids. (9 modules).

**Modules of Specific Background (SBM):** Correspond to basic modules whose scientific field of knowledge lie within the basic context of Physical Therapy. These are Biomechanics, Physiology of

Therapeutic Exercise, Diagnostic Imaging, Ergonomy-Preventive Physiotherapy, Principles of Biophysics-Electrophysiology, Kinesiology of the Trunk, Kinesiology of the limbs, Principles of Musculoskeletal Physiotherapy, Principles of Neurological Physiotherapy, Functional Management of Movement Dysfunctions, Research Methods in Health Sciences, Presentations of Special Physiotherapy Topics, Foreign language– Medical Terminology (13 modules).

**Specialty-based Modules (SM):** Correspond to the physiotherapy-specific modules. These are: Massaging Techniques, Kinesiotherapy, Physiotherapeutic Assessment, Physical Modalities - Applied Electrotherapy, Clinical Musculoskeletal Physiotherapy I & II, Clinical Neurological Physiotherapy I & II, Sports Physiotherapy, Physical Therapy for Special Populations, Principles of Cardiorespiratory Physiotherapy, Clinical Cardio-Respiratory Physiotherapy, and Special Techniques in Manual Therapy (13 modules).

**Mandatory Elective modules (MEM):** Correspond to mandatory election between modules, either Intelligent Systems of Decision Making or Prosthetics-Orthotics.

**Modules within Management, Economy-Administration, Legislation & Humanitarian Studies (MELH)** Include the modules of Management, Economy-Administration and Legislation which form the basis for the organization and administration of businesses, clinics, laboratories and services relevant to Physiotherapy as well as other Humanitarian Studies. Such subjects are: Computer Science in Health, Ethics in Physiotherapy and Biostatistics (3 modules).

In order to be awarded the Physiotherapy Degree, the students have to be successfully examined in all 40 modules, thus complete 240 credits (ECTS).

## Assessment

Generally, assessment of the theoretical components of each module takes place at the end of each semester and has 2 examination periods. In case somebody fails the 1<sup>st</sup> exam, they may take the 2<sup>nd</sup>. If they fail twice, they have to attend the module again. Assessment of the practical components of the modules usually take place on a daily basis with three or more formal oral

examination-type assessments, which comprise of practical demonstration of techniques /methods by the students. Except from the daily evaluation of students and the intermediate evaluations, a final examination takes place at the end of the semester. The final grade for each module is the average of the theoretical and laboratory part (whenever the module has a theoretical and practical part) and has to be 5 or higher out of 10. Nevertheless, the students need to achieve 5 out of 10 for each of the parts to consider the subject passed. The examination's duration is 2 hours. After passing the theoretical and laboratory part, the students are awarded with the equivalent to every module ECTS credits.

### **Quality Assurance Systems and Review Procedures of the Curriculum**

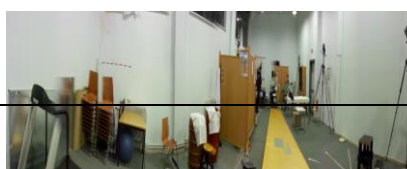
The Department is obliged to perform and present an Annual Self-Evaluation (internal) Report assessing its facilities, infrastructure, students, graduates, tutors and generally all of its functions and achievements each year. Following 2 years, a more detailed self-evaluation report is synthesized in one document, the "Internal Evaluation" report, which additionally includes all the strategies that need to be implemented and is sent to the Ministry of Education; where a specialized committee for quality assurance in higher education (Hellenic Quality Assurance & Accredibility - (H.Q.A.A.A.) will evaluate it. This finally leads to the "External Evaluation" of the Department, by a board of external evaluators, which are usually highly experienced academics from abroad. Any detail relevant to the Department is documented in these evaluations; especially the weak points are highlighted for further improvement.

### **Facilities**

The building facilities in Aigion consist of 8 laboratory rooms (Anatomy, Biomechanics, Neurorehabilitation, Kinesiology, Kinesiotherapy, Massage Techniques, Electrotherapy I & II), Computer lab, 3 lecture rooms, conference room, library, "Polykentro" theatre. In addition, the student restaurant of the TEI is situated at the city of Aigion.

Below you will find photographs of most of the above mentioned rooms

1. Anatomy Lab



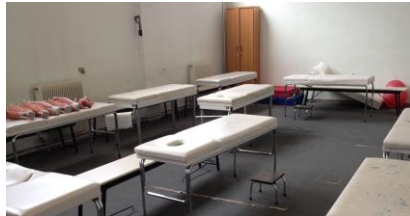
2. Biomechanics Lab



3. Electrotherapy Lab



4. Kinesiotherapy Lab



5. Kinesiology Lab



6. Massage Techniques Lab



7. Neurorehabilitation Lab



**Computer Lab**

**One of the Lecture Rooms**



**Library****Conference Room****“Polykentro” Theatre****Student restaurant****Scientific and laboratory equipment**

The scientific and laboratory equipment of the Department of Physical Therapy is new, modern, quite sophisticated with several scientific measurement tools, such asQ:

- 3D System of Kinematic & Gait Analysis (Motion Analysis System)
- Isokinetic Dynamometer (Biodex, System III)
- Floor Ergometer (Preco)
- Diagnostic Ultrasound
- Foot Scanner System



- Cycloergometer
- Balance Platform
- Physiocenter Equipment
- Walking Aids
- Exercise Aids (physio balls, weights, mats)



The teaching facilities consist of Computers, LCD Projectors, Electronic tablets, Televisions- Videos & power point Presentation equipment.



## Administration

### Head of the Department

**Dr Elias Tsepis**, PT, PhD, Assistant Professor in Physical Therapy, Bachelor in Physical Education, MSc in Sports Medicine and a PhD in Sports Physical Therapy

### Academic staff

The core of the teaching staff (see below) consists of physiotherapists and other health professionals with permanent contracts, elected from a body of electors (dictated from the Ministry of Education). The rest of the teaching staff are contracted academic collaborative staff (mostly contracted on a yearly basis), the majority of whom are also physical therapists and, to a lesser extent, other health professionals (doctors etc.).

The permanent teaching staff are as follows:

- **Dr Elias Tsepis**, PT, PhD, Assistant Professor in Physical Therapy, Bachelor in Physical Education, MSc in Sports Medicine and a PhD in Sports Physical Therapy.(tsepis@teipat.gr)
- **Dr Konstantinos Koutsogiannis**, PhD, Assistant Professor Physicist, Physicist, PhD in Medical Diagnostic Systems.(ckoutsog@teipat.gr)
- **Dr Evdokia Billis**, PT, PhD, Assistant Professor in Physical Therapy, MMACP, MCSP, MSc (Manipulative Therapy), PhD in Musculoskeletal Physical Therapy (ebillis@teipat.gr)
- **Dr Konstantinos Fousekis**, PT, PhD, Senior Lecturer in Physiotherapy, Bachelor in Physical Education, MSc, PhD in Sports Medicine.(kfousekis@teipat.gr)

### Secretariat

Mrs. Konstantina Asimakopoulou

Tel.: +302691061150, Fax.: +302691061250, Email: [ftherapia@teipat.gr](mailto:ftherapia@teipat.gr)

### Librarian

Mrs. Eleni Lolou

Tel.: +3026910 23 566, Email: [loloue@teipat.gr](mailto:loloue@teipat.gr)

## Course Curriculum Outline





## Course Curriculum

Code	Module/Subject	Category	Hours/Week		Weekly	Per Semester	
			Theory	Lab	Total TU	WL	ECTS
<b>1st Semester</b>							
A1	Anatomy of the Musculoskeletal System	GBM	4	2	6	210	7
A2	Anatomy of the Nervous System & Internal Organs	GBM	4	-	4	180	6
A3	Physiology	GBM	3	-	3	135	5
A4	Kinesiology of the Trunk	SBM	3	3	6	180	6
A5	Computer Science in Health	MELH	1	2	3	75	3
A6	Foreign language– Medical Terminology	MELH	2	-	2	90	3
	<b>Total</b>		<b>17</b>	<b>7</b>	<b>24</b>	<b>870</b>	<b>30</b>
<b>2nd Semester</b>							
B1	Pathology	GBM	4	-	4	180	7
B2	Surgery	GBM	2	-	2	90	3
B3	Neurophysiology	GBM	2	-	2	90	3
B4	Kinesiology of the Limbs	SBM	4	4	8	240	8
B5	Massage Techniques	SM	2	3	5	135	5
B6	Biostatistics	MELH	2	1	3	105	4
	<b>Total</b>		<b>16</b>	<b>8</b>	<b>24</b>	<b>840</b>	<b>30</b>
<b>3rd Semester</b>							
C1	Orthopaedics	GBM	3	-	3	135	5
C2	Neurology	GBM	3	-	3	135	5
C3	Principles of Cardiorespiratory Physiotherapy	SM	2	4	6	150	5
C4	Kinesiotherapy	SM	2	2	4	120	4
C5	Biomechanics	SBM	3	2	5	165	6
C6	Principles of Biophysics-Electrophysiology	SBM	3	-	3	135	5
	<b>Total</b>		<b>16</b>	<b>8</b>	<b>24</b>	<b>840</b>	<b>30</b>
<b>4th Semester</b>							
D1	Physical Therapy for Special Populations	SM	3	-	3	135	5
D2	Clinical Cardio-Respiratory Physiotherapy	SM	3	7	10	240	9
D3	Principles of Musculoskeletal Physiotherapy	SBM	3	-	3	135	5
D4	Physiotherapeutic Assessment	SM	3	2	5	165	6
D5	Physical Modalities- Applied Electrotherapy	SM	2	3	5	135	5
	<b>Total</b>		<b>14</b>	<b>12</b>	<b>26</b>	<b>810</b>	<b>30</b>
<b>5th Semester</b>							
E1	First Aid	GBM	2	-	2	90	3
E2	Clinical Musculoskeletal Physiotherapy I	SM	4	10	14	330	13
E3	Principles of Neurological Physiotherapy	SBM	3	-	3	135	5
E4	Special Techniques in Manual Therapy	SM	2	2	4	120	4
E5	Physiology of Therapeutic Exercise	SBM	3	-	3	135	5

	<i>Total</i>		<b>14</b>	<b>12</b>	<b>26</b>	<b>810</b>	<b>30</b>
<b>6th Semester</b>							
F1	Clinical Musculoskeletal Physiotherapy II	SM	3	6	9	225	9
F2	Clinical Neurological Physiotherapy I	SM	3	6	9	225	9
F3	Diagnostic Imaging	SBM	2	-	2	90	3
F4	Ergonomy- Preventive Physiotherapy	SBM	2	-	2	90	3
F5	Intelligent Systems of Decision Making/Prosthetic-Orthotics	MEM	2	-	2	90	3
F6	Ethics in Physiotherapy	SBM	2	-	2	90	3
	<i>Total</i>		<b>14</b>	<b>12</b>	<b>26</b>	<b>810</b>	<b>30</b>
<b>7th Semester</b>							
G1	Clinical Neurological Physiotherapy II	SM	4	9	13	315	11
G2	Sports Physiotherapy	SM	3	2	5	165	6
G3	Functional Management of Movement Dysfunctions	SBM	3	-	3	135	5
G4	Research Methods in Health Sciences	SBM	3	-	3	135	5
G5	Presentations of Special Physiotherapy Topics	SBM	2	-	2	90	3
	<i>Total</i>		<b>15</b>	<b>11</b>	<b>26</b>	<b>840</b>	<b>30</b>
<b>8th Semester</b>							
H1	Thesis	SM	-	-	-	-	20
H2	Practical Placement	SM	-	-	-	-	10
	<i>Total</i>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30</b>

**ABBREVIATIONS**

TU: TOTAL UNITS

SBM: MODULES OF SPECIFIC BACKGROUND

GBM: MODULE OF GENERAL BACKGROUND

WL: WORK LOAD

SM: SPECIALTY-BASED MODULE

MEM: MANDATORY ELECTIVE MODULE

TU: TEACHING UNIT

MELH: MANAGEMENT, ECONOMY- ADMINISTRATION, LEGISLATION &amp; HUMANITARIAN STUDIES MODULE

## Detailed Modules' Outline of Physical Therapy Department



## 1<sup>st</sup> Semester Modules

**Name of subject:** ANATOMY OF MUSCULOSKELETAL SYSTEM (THEORY & LAB)

**Module Code:** A1

**Module Category:** General Background Module

**Teaching Period:** 1<sup>st</sup> semester

**Aim of Course:** the description and identification of the parts and structures of the muscular & skeletal system in relation to the human body.

**Content of Course:** Anatomy of the muscular and bony tissues, description of relative structures, identification of bony landmarks, surface anatomy, identification of muscles and their points of insertion.

**Teaching method:**

- i) Classic theoretical presentations,
- ii) Project presentations by students,
- iii) Discussions with student groups assigned with subject briefings,
- iv) Demonstrations with a skeleton specimen, a muscular model and various detailed specimens of all the human body articulations.

**Textbooks/reference material:**

In English:

- Schnell R. (2006). *Clinical Anatomy by Systems*. William and Willkins

In Greek:

- Γίγης Π. (2002). *Εισαγωγή στην Ανατομία του Ανθρώπου*. University Studio press (*Introduction to Human Anatomy*)
- Τσικάρης Π., Παρασκευάς Γ., Νάτσης Κ. (2005). *Περιγραφική και Εφαρμοσμένη Ανατομική*. University Studio Press (*Descriptive and Applied Anatomy*)
- Drake R., Vogl W., Mitchell A. (2007). *Gray's Anatomy*. Ελληνική Έκδοση. Ιατρικές εκδόσεις Πασχαλίδη
- Kahle, Leonard, Platzer (1985). *Εγχειρίδιο Ανατομικής με έγχρωμο Άτλαντα (τόμος I, Μυοσκελετικό)*. Ιατρικές Εκδόσεις Πασχαλίδη (*Manual of Anatomy with Coloured Atlas – Volume I, Musculoskeletal*)
- Lumley J. (2004). *Ανατομία της Επιφάνειας του Σώματος*. Εκδόσεις Παρισιάνος (*Anatomy of the Human Body Surface*)
- Moore (1998). *Κλινική Ανατομική*. Ιατρικές Εκδόσεις Πασχαλίδη (*Clinical Anatomy*)
- Schnell R. (2009). *Κλινική Ανατομική*. Εκδόσεις Λίτσας (*Clinical Anatomy*)

**Name of subject: ANATOMY OF THE NERVOUS SYSTEM & INTERNAL ORGANS (THEORY)****Module Code:** A2**Module Category:** General Background Module**Teaching Period:** 1st semester**Aim of Course:** Description of the anatomy of the nervous system and its structures. Description and identification of the internal organs of the human body.**Content of Course:** Anatomy of the nervous tissue and neurons. Structures of the central and peripheral nervous system. Anatomy of the cells and structural components of the internal organs (Endocrine glands, peptic, respiratory, circulatory, urinary, genital, sensory systems).**Teaching method:**

- i) Power Point presentations with projector,
- ii) Interactive sessions between the teacher and the students,
- iii) Demonstration of the internal organs and the brain with the use of specimens.

**Textbooks/reference material:**In English:

- Blumenfeld H. (2002). Neuroanatomy through clinical cases. Sinauer Associates.
- Martin J. (2003). Neuroanatomy, Text and Atlas. McGraw and Hill.
- Schnell R. (2009). Clinical Neuroanatomy. Lipincott.

In Greek:

- Γίγης Π. (2002). *Εισαγωγή στην Ανατομία του Ανθρώπου*. University Studio press (*Introduction to Human Anatomy*)
- Γίγης Π., Παρασκευάς Γ. (1999). *Νευροανατομία. Κεντρικό Νευρικό Σύστημα*. University Studio press (*Neuroanatomy, Central Nervous System*)
- *Gray's Anatomy* by Drake R., Vogl W., Mitchell A.(2007). (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές εκδόσεις Πασχαλίδη
- Fitzgerald MJ, Gruener G, Mitui E. *Κλινική Νευροανατομία και Νευροεπιστήμες* (2009). (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Πασχαλίδη (*Clinical Neuroanatomy and Neurosciences*)
- Haines R. *Νευροανατομία*. (Μετάφραση Αγγλικής Έκδοσης), Λειτουργίες και κλινικές εφαρμογές. Ιατρικές Εκδόσεις Πασχαλίδη, 1999 (*Neuroanatomy*)
- Schnell R. (2009). *Κλινική Νευροανατομία*. (Μετάφραση Αγγλικής Έκδοσης), Εκδόσεις Λίτσας, Αθήνα (*Clinical Neuroanatomy*)
- Moore (1998). *Κλινική Ανατομική*. (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Πασχαλίδη, Αθήνα (*Clinical Anatomy*)

**Name of subject: PHYSIOLOGY (THEORY)****Module Code:** A3**Module Category:** General Background Module**Teaching Period:** 1st semester**Aim of Course:** Review of the normal function and the interaction between the systems of the human body with emphasis on the respiratory, musculoskeletal and circulatory systems.**Content of Course:** Cell function. Blood Circulatory system. Peripheral circulation. Urinary and peptic systems. Thermoregulation. Endocrine glands. Muscular contraction. Respiratory function/gas exchange.**Teaching method:**

- i) Classic theoretical presentations with the use of: a) Theoretical texts, b) Power point presentations of about 280 slides that provide documentation and visual support on the theoretical texts, c) 12 video clips, 30 minutes each, of the “British Encyclopedia of the Human Body”, displaying each system separately.
- ii) Presentations of student projects and discussions with student groups assigned with an issue briefing.

**Textbooks/reference material:**In English:

- Goldberg S. (1995). Clinical Physiology Made Ridiculously simple. MedMaster.
- Scanlon V., Saunders T. (2007). Essentials of Anatomy and Physiology. FA Davis Company.
- Stanfield C.L., Germann W.J. (2008). Principles of Human Physiology. Pearson International Edition.
- Thibodeau G.A., Patton K.T. (2007). Anatomy and Physiology. Mosby.
- Widmaier E., Raff H., Strang K. (2006). Wonders Human Physiology. Mc Graw and Hill.

In Greek:

- Green G.J (2008). *Συνοπτική Φυσιολογία του Ανθρώπου με ερωτήσεις αυτοαξιολόγησης.* (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές εκδόσεις Πασχαλίδη (*Summary of Human Physiology with Self-Evaluation Questions*)
- Guyton, Arthur C (2004). *Φυσιολογία του ανθρώπου.* (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές εκδόσεις Πασχαλίδη (*Human Physiology*)

**Name of subject: TRUNK KINESIOLOGY (THEORY & LAB)****Module Code:** A4**Module Category:** Specific Background Module**Teaching Period:** 1<sup>st</sup> semester

**Aim of Course:** This is the first course in the two-course Kinesiology sequence, introducing students to basic principles of kinesiology. The main aim of the module is the muscle performance testing and measurement of joint motion of the trunk, spine, pelvis and head.

**Content of Course:** Introduction to kinesiology, types of joints, description of normal and abnormal human movement, mobility integrity, mechanisms of muscle function. Human neuromuscular junctions. Kinesiology of the spinal column, trunk, pelvis & head.

**Teaching method:**

- i) Classic theoretical presentations,
- ii) Video presentations on movement analysis,
- iii) Discussions with student groups assigned with an issue briefing.

**Textbooks/reference material:**In English:

- Galley P.M. & Forster A.L. Human Movement (1987). An introductory text for Physiotherapy students. Churchill Livingstone.
- Levangie P., Norkin C. (2005). Joint Structure and Function. A Comprehensive Analysis. F.A. Davis Company, Philadelphia.
- Nordin M & Frankel V.H. (1989). Basic biomechanics of the musculoskeletal system. Lee & Febiger.
- Oatis C.A. Kinesiology (2004). The Mechanics & Pathomechanics of Human Movement. Lippincott Williams & Wilkins.
- Perry J. (1992). Gait analysis: Normal and Pathological function. SLACK Incorporated.
- Smidt G.L. (1990). Clinics in Physical Therapy: Gait in Rehabilitation. Churchill Livingstone.
- Smith LK, Weiss EL, Lehmkuhl LD (1996). Brunnstrom's Clinical Kinesiology. F.A. Davis Company, Philadelphia.
- Soderberg G. Kinesiology: Application to Pathological Motion. Williams & Wilkins, Baltimore, 1993
- Whittle M. (1991). Gait analysis: An introduction. Butterworth.

In Greek:

- Δούκας Ν. (1991). *Κινησιολογία*. Ιατρικές Εκδόσεις Λίτσας (*Kinesiology*)

- Σφετσιώρης Δ. (2003). *Κινησιολογία Εισαγωγή-Άνω Άκρο DKS*, Αθήνα (*Introduction to Kinesiology – Upper Limb*)
- Karandji, I.A.(2001). *Η Λειτουργική Ανατομική των Αρθρώσεων, Τόμος 3: Ο Κορμός και η Σπονδυλική Στήλη*. Ιατρικές Εκδόσεις Π.Χ. Πασχαλίδης, Αθήνα (*Functional Anatomy of the Joints, Vol 3: Trunk and Spine*)
- Hamilton N. Luttgens K.(2003). *Κινησιολογία. Επιστημονική βάση της ανθρώπινης κίνησης* Εκδ. Παρισιάνου, Αθήνα (*Kinesiology, Scientific Basis of Human Movement*)
- Smith L. Weiss E Lehmkuhl. (2005). *Brunnstrom's Κλινική Κινησιολογία* Εκδ. Παρισιάνου Αθήνα (*Brunnstrom's Clinical Kinesiology*)

**Name of subject: COMPUTER SCIENCE IN HEALTH (THEORY & LAB)**

**Module Code:** A5

**Module Category:** Management, Economy-Administration, Legislation & Humanitarian Studies Module

**Teaching Period:** 1<sup>st</sup> semester

**Aim of Course:** The presentation of the basic principles and concepts of modern biomedical technology and its applications in health professions and physiotherapy in particular.

**Content of Course:** Basic concepts of computer science in health administration. Protocols, classification, coding, communication and tele-medicine. Internet. Artificial intelligence and medicine. Visual reality. Medical imaging.

**Teaching method:**

- i) Classic theoretical presentations,
- ii) Project presentations by students,
- iii) Discussions with student groups assigned with subject briefings,
- iv) Practice on computers (PCs).

**Textbooks/reference material:**

In English:

- Shortliffe E (Editor), Cimino J (Editor) (2006). *Biomedical Informatics: Computer Applications in Health Care and Biomedicine (Health Informatics)* (Hardcover)
- Shortliffe E (Editor), Perreault L (Editor), Wiederhold G (Editor), Fagan L (Editor), (2008). *Medical Informatics: Computer Applications in Health Care and Biomedicine (Health Informatics)*,
- Bommel J, Musen M, (2008). *Handbook of Medical Informatics*, Springer



- Fagan LM, (2003). *Medical Informatics: Computer Applications in Health Care and Biomedicine* (Health Informatics) Springer.
- Hoyt R (Editor), Ann Yoshihashi [http://www.amazon.com/Medical-Informatics-Practical-Healthcare-Professional/dp/1435753569/ref=dp\\_cp\\_ob\\_b\\_title\\_2](http://www.amazon.com/Medical-Informatics-Practical-Healthcare-Professional/dp/1435753569/ref=dp_cp_ob_b_title_2) Melanie Sutton (Editor) (2008). *Medical Informatics: Practical Guide for the Healthcare Professional*
- In Greek:
- Αθανασόπουλος Α, Αντωνικόπουλος Κ, Βασιλακόπουλος Ν (2006). *ΜΑΘΑΙΝΟΝΤΑΣ Windows XP, EXCEL ΚΑΙ POWERPOINT* ΓΚΙΟΥΡΔΑΣ Β. ΑΘΗΝΑ (*Learning Windows XP, EXCEL & POWERPOINT*)
- Κουτσογιάννης Κ, (2002). *Τεχνολογία στις Επιστήμες Υγείας και Πρόνοιας*, εκδόσεις ΕΛΛΗΝ (*Technology in Health and Providence Sciences*)
- Κυριόπουλος Γ.Ν., (1991). *Συστήματα Υγείας και Πληροφορική, Πληροφορική Νέες Τεχνολογίες και Υγεία, Τόμος 1,4*, Αθήνα (*Health Systems and Computer Science – Computer Science, New Technologies & Health, Vol 1,4*)
- Μπονίκος Σ. Δ, (1990). *Η Πληροφορική στην Ιατρική Εκπαίδευση και Τα Συστήματα Υγείας*, Επίτομος, Έκδοση Πρώτη, Εκδόσεις SET ΟΕ, Αθήνα (*Computer Science in Medical Education and Health Systems*)
- Πάγκαλος Γ, (1991). *Πληροφοριακό Σύστημα Νοσοκομείου, Πληροφορική, Νέες Τεχνολογίες και Υγεία, Τεύχος 3, Τόμος 1*, Θεσσαλονίκη (*Information System of a Hospital – New Technologies & Health, Issue 3, Vol 1*)
- Τζέφερσον Λ, (1991). *Management και Πληροφορική, Πληροφορική, Νέες Τεχνολογίες και Υγεία, Τεύχος 3, Τόμος 1*, Θεσσαλονίκη (*Management and Computer Science – Computer Science, New Technologies & Health, Issue 3, Vol 1*)
- Φλαμπούρης Κ, (1991). *Η Ασφάλεια της Πληροφορίας, Πληροφορική, Νέες Τεχνολογίες και Υγεία, Τεύχος 3, Τόμος 1*, Θεσσαλονίκη (*Security of Information – Computer Science, New Technologies & Health, Issue 3, Vol 1*)
- Elmasri R. - Navathe S.B (1996). *Θεμελιώδεις Αρχές Συστημάτων Βάσεων Δεδομένων*, Μετάφραση Χατζόπουλος Μ, Τόμος 1, Έκδοση Δεύτερη, Εκδόσεις Δίαυλος, Αθήνα (*Fundamental Principles of Databases*)
- Goldschlager L and Lister A, (1996). *Εισαγωγή στη Σύγχρονη Επιστήμη των Υπολογιστών*, Μετάφραση Χαλάτσης Κώστας, Επίτομος, Έκδοση Τρίτη, Εκδόσεις Δίαυλος, Αθήνα (*Introduction to Modern Computer Science*)
- Tanenbaum S. A, (2000). *Δίκτυα Υπολογιστών*, Μετάφραση Στυλιανάκης Βασίλειος, Επίτομος, Έκδοση Τρίτη, Εκδόσεις Παπασωτηρίου, Αθήνα (*Computer Networks*)

**Name of subject: ENGLISH FOR SPECIFIC PURPOSES – MEDICAL TERMINOLOGY (THEORY)****Module Code:** A6**Module Category:** Management, Economy-Administration, Legislation & Humanitarian Studies Module**Teaching Period:** 1st semester**Aim of Course:** Enhance students' abilities in the main language skills (listening, speaking, reading, and writing as they pertain to physical therapy) and sub skills (understanding medical texts, producing academic writing, delivering oral presentations)**Content of Course:** Texts, audio and visual material that relate to physical therapy (ranging from anatomy to physical disabilities) as well as developing presentation skills, taking medical histories, and doing patient consultations are areas covered in the course.**Teaching method:**

- i) Lectures from the teaching professor, using boards, slideshows, projections,
- ii) Translation of scientific book and article parts from the teacher,
- iii) Discussions and feedback,
- iv) Student projects including translations and search on the internet for relevant scientific publications.

**Textbooks/reference material:**

- Ζεβελεκάκη Χ. (1995). *Αγγλοελληνικό Λεξικό Ιατρικών Όρων*. Εκδόσεις Ζεβελεκάκη. (*English – Greek Dictionary of Medical Terms*)
- Θεοδώρου Β. (2002). *Συνοπτικό Αγγλοελληνικό & Ελληνοαγγλικό Ιατρικό λεξικό*. Εκδόσεις Πασχαλίδη (*English – Greek & Greek – English Summary Medical Dictionary*)
- *Μέγα Αγγλοελληνικό & Ελληνοαγγλικό Ιατρικό Λεξικό*, Dorland (2007). Εκδόσεις Πασχαλίδη (*Grand English – Greek & Greek – English Medical Dictionary*)

## 2<sup>nd</sup> Semester Modules

**Name of subject:** PATHOLOGY (THEORY)

**Module Code:** B1

**Module Category:** General Background Module

**Teaching Period:** 2<sup>nd</sup> semester

**Aim of Course:** Students will learn the common diseases of human body, the specific symptoms and they will concentrate on physical examination and clinical assessment process.

**Content of Course:** Patho-anatomy, international classification of diseases. How to approach patients. Clinical examination, Diagnosis, Infectious diseases concepts. Common diseases of the respiratory, circulatory, peptic, urinary, renal, and endocrine gland systems. Collagen disease. Arthritis. Evaluation of common skin diseases. Blood diseases.

**Teaching method:**

- i) Classic theoretical presentations with the use of: a) Theoretical texts, b) Power point presentations of about 180 slides that provide documentation and visual support on the theoretical texts, c) 6 video clips, 30 minutes each, of the "British Encyclopedia of the Human Body".
- ii) Student projects presentations and discussions with student groups assigned with an issue briefing.

**Textbooks/reference material:**

In English:

- Andreoli T.E., Carpenter C., Griggs R.C, Benjamin I. (2007) Andreoli and Carpenter's Cecil Essentials of Medicine. 7<sup>th</sup> ed. Saunders, Philadelphia
- Fauci A., Braunwald E., Kasper D., Hauser S. (2008). *Harrison's Principles of Internal Medicine*. Mc Graw and Hill
- Ghosh A. (2008). Mayo Clinic Internal Medicine Review. Mayo Clinic Scientific Press
- Goldlist B.J. (2002). Appleton & Lange's review of internal medicine. McGraw-Hill
- Goroll A., Mulley J.R., Albert G. (2009). Primary Care Medicine. Office Evaluation and Management of the adult patient. Lippincott Williams & Wilkins
- Jamison J.R. (2006). Differential Diagnosis for Primary Care. A handbook for Health Care Practitioners. 2<sup>nd</sup> ed.

Elsevier

In Greek:

- Μουντοκαλάκης Θ.Δ. (1999). *Διαφορική Διάγνωση*. Επιστημονικές εκδόσεις Παρισιάνου, Αθήνα (*Differential Diagnosis*)
- Παπαδημητρίου Μ. (2003). *Διαφορική διαγνωστική*. Univesity Studio Press (*Differential Diagnostics*)
- Σιών Μ. (2004). *Συμπτώματα και σημεία κατά την κλινική εξέταση*. Univesity Studio Press (*Symptoms and Points During Clirical Examination*)
- Τσουρουτσόγλου Γ. (1993). *Η Επισκόπηση ως φυσική εξεταστική Μέθοδος*. Univesity Studio Press (*Survey as a Normal Examination Method*)
- Andreoli T. E., Carpenter C., Griggs R.C., Loscalzo J. *Cecil Βασική Παθολογία (2 Τόμοι)*. (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Λίτσας 2003 (*Cecil Basic Pathology, 2 Volumes*)
- Kumar P., Clark M. *Παθολογία (2 Τόμοι)*. (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Λίτσας 2007 (*Pathology, 2 Volumes*)

**Name of subject: SURGERY (THEORY)**

**Module Code:** B2

**Module Category:** General Background Module

**Teaching Period:** 2nd semester

**Aim of Course:** This course is an introduction to basic surgical principles and techniques, the way of trauma recovery and the approach of the surgical patient.

**Content of Course:** General surgery principles. Thoracic surgery, cardiosurgery, neurosurgery. Abdominal surgery. Common post-surgical complications. Evaluation and treatment of burns.

**Teaching method:**

- i) Power Point projector presentations,
- ii) Interactive sessions.

**Textbooks/reference material:**

In English:

- Stonebridge P.A., Smith D., Duncan L., Thompson A.M. (2005). *Surgery*
- Oxford University Presss, Oxford

In Greek:

- Γολεμάτης Ι., Μπονάτσος Γ. (2005). *Χειρουργική Παθολογία*. Ιατρικές Εκδόσεις Πασχαλίδη, Αθήνα (*Surgical Pathology*)

- Σέχας Μ.Ν. (1996). *Χειρουργική (3 Τόμοι)*. Ιατρικές Εκδόσεις Πασχαλίδη, Αθήνα (*Surgery – 3 volumes*)
- Doherty G.M., Way L.W (2008). Washington *Σύγχρονη Χειρουργική και Θεραπεία*. (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Πασχαλίδη, Αθήνα (*Modern Surgery and Treatment*)
- Doherty G.M., Lowney J.K., Mason J.E (2006). Washington *Εγχειρίδιο Χειρουργικής*. (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Πασχαλίδη, Αθήνα (*Manual of Surgery*)
- Sabinston D.C. *Χειρουργική*. (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Πασχαλίδη, Αθήνα, 2004. (*Surgery*)

**Name of subject: NEUROPHYSIOLOGY (THEORY)**

**Module Code:** B3

**Module Category:** General Background Module

**Teaching Period:** 2<sup>nd</sup> semester

**Aim of Course:** This course aims to a deep understanding of the basic neurophysiology concepts such as the synapses, the pyramidal tracks, the basal ganglia connections and the basic normal and abnormal clinical signs.

**Content of Course:** Characteristics and functions of sensorimotor system. Study of the neural connections, the organization of the central nervous system and the control of the voluntary movement. Mental functions and the autonomous nervous system

**Teaching method:**

- i) Power Point presentations,
- ii) Interactive sessions.

**Textbooks/reference material:**

In English:

- Stanfield, Germann. Principles of Human Physiology
- Daube J.R. (2002). Clinical Neurophysiology. 2<sup>nd</sup> ed. Oxford University Press, Oxford
- Kandel E.R, Schwartz J.H., Jessell T.M. (2000). Principles of Neural Science. 4<sup>th</sup> ed. Mc Graw and Hill
- Latash M.L. (2008). Neurophysiological Basis of Movement. 2<sup>nd</sup> ed. Human Kinetics, Illinois

In Greek:

- Κάζης Α.Δ. (1989). *Κλινική Νευροφυσιολογία*. University Press Studio, Θεσ/νίκη (*Clinical Neurophysiology*)
- Guyton A.J., Hall J.E. (2004). *Φυσιολογία του ανθρώπου*. (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές εκδόσεις Παρισιάνου, Αθήνα (*Human Physiology*)

**Name of subject: KINESIOLOGY OF LIMBS (THEORY & LAB)****Module Code:** B4**Module Category:** Specific Background Module**Teaching Period:** 2<sup>nd</sup> semester**Aim of Course:** This second course of Kinesiology sequence introduces students to muscle performance testing and measurement of joint motion of the upper and lower limb.**Content of Course:** Shoulder girdle, elbow, wrist, hand, pelvic girdle and hips, knee, ankle, foot – functional, kinematic and kinetic characteristics, motion analysis and muscle power assessment (MRC). Motions and muscles acting across these joints. Open and closed kinetic chain exercise analysis.**Teaching method:**

- i) Classic theoretical presentations,
- ii) Movement analysis presentations on video.

**Textbooks/reference material:**In English:

- Galley P.M. & Forster A.L (1987). Human Movement. An introductory text for Physiotherapy students. Churchill Livingstone
- Levangie P., Norkin C. (2005). Joint Structure and Function. A Comprehensive Analysis. F.A. Davis Company, Philadelphia
- Nordin M & Frankel V.H. (1989). Basic biomechanics of the musculoskeletal system. Lee & Febiger
- Oatis C.A. Kinesiology (2004). The Mechanics & Pathomechanics of Human Movement. Lippincott Williams & Wilkins
- Perry J. (1992). Gait analysis: Normal and Pathological function. SLACK Incorporated
- Smidt G.L. (1990). Clinics in Physical Therapy: Gait in Rehabilitation. Churchill Livingstone
- Smith LK, Weiss EL, Lehmkuhl LD (1996). Brunnstrom's Clinical Kinesiology. F.A. Davis Company, Philadelphia
- Soderberg G. Kinesiology: Application to Pathological Motion. Williams & Wilkins, Baltimore, 1993
- Whittle M. (1991). Gait analysis: An introduction. Butterworth

In Greek:

- Δούκας Ν. (1991). *Κινησιολογία*. Ιατρικές Εκδόσεις Λίτσας (*Kinesiology*)
- Σφετσιώρης Δ. (2003). *Κινησιολογία Εισαγωγή-Άνω Άκρο DKS*, Αθήνα (*Kinesiology, Introduction: Upper Limb*)

- Kapandji, I.A.(2001). *Η Λειτουργική Ανατομική των Αρθρώσεων, Τόμος 1 & 2: Άνω & Κάτω άκρα*. Ιατρικές Εκδόσεις Π.Χ. Πασχαλίδης, Αθήνα (*Functional Anatomy of Joints, Vol 1&2: Upper & Lower Limbs*)
- Hamilton N. Luttgens K. (2003). *Κινησιολογία. Επιστημονική βάση της ανθρώπινης κίνησης* Εκδ. Παρισιάνου, Αθήνα (*Kinesiology, Scientific Base of Human Movement*)
- Smith L. Weiss E Lehmkuhl. (2005). *Brunnstrom's Κλινική Κινησιολογία* Εκδ. Παρισιάνου Αθήνα (*Brunnstrom's Clinical Kinesiology*)

**Name of subject: MASSAGING TECHNIQUES (THEORY & LAB)**

**Module Code:** B5

**Module Category:** Specialty-based Module

**Teaching Period:** 2nd semester

**Aim of Course:** Train students to understand the basic principles of massage techniques. Decision making in choosing the appropriate technique according to assessment.

**Content of Course:** Introduction to soft tissue mobilizations techniques, types of massage, techniques of traditional massage, connective tissue and deep friction massage, lymphatic massage, criteria for technique choice, indications – contra-indications, types of skin diseases.

**Teaching method:**

- i) Classic theoretical presentations,
- ii) Project presentations by students,
- iii) Discussions with student groups assigned with subject briefings.

**Textbooks/reference material:**

In English:

Lucinda Lidell (2001). *The Book Of Massage: The Complete Step by step Guide to Eastern and Western Technique*, Fireside

- Susan Mumford (2007). *The New Complete Guide to Massage*, Penguin Books
- Holey E, Cook E (1997). *Evidence based therapeutic massage*, Elsevier.
- Art Riggs (2002). [http://www.amazon.com/Deep-Tissue-Massage-Revised-Techniques/dp/1556436505/ref=pd\\_sim\\_b\\_4](http://www.amazon.com/Deep-Tissue-Massage-Revised-Techniques/dp/1556436505/ref=pd_sim_b_4) Deep Tissue Massage, North Atlantic Books

In Greek:

- Σακελλάρη Β- Γώγου Β (2004). *Τεχνικές θεραπευτικές μάλαξης*, Εκδ. Παρισιάνου (*Therapeutic Massage Techniques*)

- Χριστάρα – Παπαδοπούλου Α (2004). *Τεχνικές θεραπευτικές μάλαξης*, Εκδ. ΤΕΙ Θεσ/κης (*Therapeutic Massage Techniques*)
- Σφetsιώρη Δ.Κ (2003). *Θεραπευτική μάλαξη*, DKS (*Therapeutic Massage*)
- Καραμανής Δημήτρης (2007). *Το ελληνικό αθλητικό μασάζ*, Εκδόσεις Ισόρροπον (*Greek Sports Massage*)

**Name of subject: BIostatistics (THEORY & LAB)**

**Module Code:** B6

**Module Category:** Management, Economy-Administration, Legislation & Humanitarian Studies Module

**Teaching Period:** 2<sup>nd</sup> semester

**Aim of Course:** Students learn basic principles of statistics and explore mechanisms of data management.

**Content of Course:** Introduction, basic concepts, types of data, distribution, research design, types of health related research, sampling, descriptive statistics, comparisons, correlations, analysis of variance.

**Teaching method:**

- i) Classic theoretical presentations,
- ii) Project presentations by the students,
- iii) Discussions with student groups assigned with an issue briefing.

**Textbooks/reference material:**

In English:

Rosner B. (2006). <http://www.amazon.com/Fundamentals-Biostatistics-Book-Bernard-Rosner/dp/0534209408> Fundamentals of Biostatistics/Book and Disk

- 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)
- Jacobas A.D. (1997). *Medical Biostatistics*. Bucura Mond Eds, Bucharest.
- Nieto JF (2007). *Epidemiology: Beyond the Basics* M. Szklo [http://www.amazon.com/Epidemiology-Beyond-Basics-M-Szklo/dp/0763729272/ref=pd\\_sim\\_b\\_3](http://www.amazon.com/Epidemiology-Beyond-Basics-M-Szklo/dp/0763729272/ref=pd_sim_b_3) , Eds
- Peat J, Barton B., Elliott E. (2005). *Statistics Workbook for Evidence-based Health Care*, [Szklo \[http://www.amazon.com/Epidemiology-Beyond-Basics-M-Szklo/dp/0763729272/ref=pd\\\_sim\\\_b\\\_3\]\(http://www.amazon.com/Epidemiology-Beyond-Basics-M-Szklo/dp/0763729272/ref=pd\_sim\_b\_3\)](http://www.amazon.com/Epidemiology-Beyond-Basics-M-Szklo/dp/0763729272/ref=pd_sim_b_3) , Eds



In Greek:

- Αλιβιζάτος Γ. (1953). *Στατιστική Μεθοδολογία*. Εκδόσεις Σπυρόπουλου Σ., Αθήνα. (*Statistical Methodology*)
- Βαγενάς Γ (2002). *Στατιστικές Εφαρμογές στην Φ.Α.*. Αθήνα (*Statistical Applications in Physiotherapy*)
- Κουτσογιάννης Κ., Noelle – Λαζαρίδου Μ., Λαζαρίδης Α. (2003). *Εφαρμοσμένη στατιστική στις επιστήμες υγείας – πρόνοιας*. Έκδοση Έλλην, Αθήνα. (*Applied Statistics in Health - Providence Sciences*)
- Νικηφορίδης Γ. (1984). *Βασικές αρχές και μέθοδοι Βιοστατιστικής*. Εκδόσεις Παν/μίου Πατρών, Πάτρα (*Basic Principles and Methods in Biostatistics*)
- Παπαϊωάννου Τ. (1981). *Εισαγωγή στις πιθανότητες και τη στατιστική*. Εκδόσεις Παν/μίου Ιωαννίνων, Ιωάννινα (*Introduction to Possibilities and Statistics*)
- Παπαϊωάννου Τ., Φερεντίνος Κ. (1985). *Βιομαθηματικά*. Ιατρικές Εκδόσεις Λίτσας, Ιωάννινα (*Biomathematics*)
- Τριχόπουλος Δ. (1975). *Ιατρική στατιστική*. Επιστημονικές εκδόσεις Παρισιάνος. Αθήνα (*Medical Statistics*)

**3<sup>rd</sup> Semester Modules****Name of subject:** ORTHOPAEDICS (THEORY)**Module Code:** C1**Module Category:** General Background Module**Teaching Period:** 3<sup>rd</sup> semester**Aim of Course:** This course explores common and important musculoskeletal injuries and introduces students to the principles of orthopaedic surgery.**Content of Course:** Fractures, sprains, dislocations. Soft tissue injury. Deformities of spinal column and the extremities. Orthopaedic surgery and traumatology. Inflammatory joint disease. Degenerative joint disease. Neurogenic arthropathy. Infective arthropathies. Inositis.**Teaching method:**

- i) Suggestions and lectures by the teaching professor,
- ii) Discussions on clinical cases between student groups and the professor,
- iii) Project presentations by the students (individually or in groups), using valid resources,
- iv) Lectures by guest professors,
- v) Interactive sessions.

**Textbooks/reference material:**In English:

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

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

Magee D. (2006). Orthopaedic Physical Assessment. Saunders

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

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

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

In Greek:

- Λαμπίρης Η.Ε. (2003). *Ορθοπαιδική και Τραυματιολογία*. Ιατρικές Εκδόσεις Π. Χ. Πασχαλίδη, Αθήνα (*Orthopaedics and Traumatology*)
- Συμεωνίδης Π. (1996). *Ορθοπαιδική. Κακώσεις και παθήσεις του μυοσκελετικού συστήματος*. University Studio Press (*Orthopaedics. Injuries and Diseases of the Musculoskeletal System*)
- Παπαβασιλείου Β. (2003). *Ορθοπαιδική. Συγγενείς ανωμαλίες, παθήσεις και κακώσεις του μυοσκελετικού συστήματος*. University Studio Press (*Orthopaedics. Congenital Anomalies, Diseases and Injuries of the Musculoskeletal System*)
- Παπαχρήστου Γ.Κ. (2006). *Εισαγωγή στην ορθοπαιδική και τραυματιολογία*. Ιατρικές Εκδόσεις Π. Χ. Πασχαλίδη, Αθήνα (*Introduction to Orthopaedics and Traumatology*)
- Κοντάκης Γ.Μ., Χατζηπαύλου Α.Γ. (2006). *Ορθοπαιδική Τραυματιολογία - Παθήσεις των οστών και των αρθρώσεων των άκρων*. Εκδόσεις Ιατρικές Εκδόσεις Π. Χ. Πασχαλίδη, Αθήνα (*Orthopaedic Traumatology – Diseases of the Bones and Articulations of the Limbs*)
- Dandy D., Edwards D. (2004). *Βασική Ορθοπαιδική και Τραυματιολογία*. (Μετάφραση Αγγλικής Έκδοσης) Επιστημονικές Εκδόσεις Παρισιάνος, Αθήνα (*Basic Orthopaedics and Traumatology*)
- Harpenfeld S. (1999). *Φυσική Εξέταση της Σπονδυλικής Στήλης και των Κάτω άκρων*. (Μετάφραση Αγγλικής Έκδοσης) Επιστημονικές Εκδόσεις Παρισιάνος, Αθήνα (*Physical Examination of the Spine and Lower Limbs*)

**Name of subject:** NEUROLOGY (THEORY)

**Module Code:** C2

**Module Category:** General Background Module

**Teaching Period:** 3<sup>rd</sup> semester

**Aim of Course:** Study of the structures and function of the central and peripheral nervous system. Review of neurological conditions & diseases. Presentation of the basic principles of neurological examination and imaging techniques.

**Content of Course:** Neurological examination of the central and peripheral system. Imaging techniques. Diseases affecting the central and peripheral nervous system (congenital, acquired or traumatic) in relation to movement and sensory disorders, the neuromuscular junction and neuromuscular diseases. Epilepsy

**Teaching method:**

- i) Power Point presentations,
- ii) Interactive sessions.

**Textbooks/reference material:**

In English:

- Principles of Internal Medicine. Harrison. Mc Graw Hill 2004
- Fuller G., Manford M.R. (2010). Neurology. An illustrated Colour Text. Churchill Livingstone
- Hauser S.L., Josephson S.A. (2010). Harrison's Neurology in Clinical Medicine. In publishing
- Lisak R., Trnong D., Carrol W., Bhidayasiri R. (2009). International Neurology. Blackwell
- Clarke C., Howard R., Rossor M., Shorvon S.D. (2009). Neurology. A Queen Square Textbook. Wiley-Blackwell
- Ropper A., Samuels M. (2009). Adams and Victor's Principles of Neurology. McGraw-Hill

In Greek:

- Δαλάκας Μ. (2001). *Πρακτική Κλινική Νευρολογία*. Ιατρικές εκδόσεις Πασχαλίδη (*Practical Clinical Neurology*)
- Λογοθετίδης Ι., Μυλωνάς Ι. (2004). *Νευρολογία*. University Studio Press (*Neurology*)
- Adams & Crofford, Victor, Rotter. (2003). *Νευρολογία (3 Τόμοι)*. (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές εκδόσεις Πασχαλίδη (*Neurology, 3 Volumes*)
- **Marsden C.D., Fowler T.J.** (2001). *Κλινική νευρολογία*. (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Λίτσας (*Clinical Neurology*)
- Walton J.N. (1996). *Νευρολογία*. (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Λίτσας (*Neurology*)

**Name of subject:** PRINCIPLES OF CARDIORESPIRATORY PHYSIOTHERAPY (THEORY & LAB)

**Module Code:** C3

**Module Category:** Specialty-based Module

**Teaching period:** 3<sup>rd</sup> semester

**Aim of Course:** Basic principles for the assessment and physiotherapy interventions for patients with respiratory and cardiovascular diseases, as well as pre and postoperative physiotherapy of patients undergoing respiratory or cardiovascular surgery, or surgery with a high risk of respiratory/cardiovascular complications.

**Content of Course:** Respiratory failure. Obstructive & restrictive diseases. Paediatric respiratory physiotherapy. Pre & postoperative physiotherapy. Respiratory physiotherapy in the ICU. Pulmonary rehabilitation. Heart failure. Chronic heart failure. Surgery for cardiovascular diseases. Coronary disease. Hypertension.

**Teaching method:**

- iii) Power Point presentations,
- iv) Interactive sessions.

**Textbooks/reference material:**

In English:

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

In Greek:

- Γραμματοπούλου Ε., Βαβουράκη Ε. (1999). Αναπνευστική Φυσικοθεραπεία. Έκδοση ΤΕΙ Αθήνας.
- Ελληνική Εταιρεία Εντατικής Θεραπείας (2003). Φυσικοθεραπεία στη μονάδα εντατικής θεραπείας.
- Μπάρλου Πανοπούλου Ε. (2003). Φυσικοθεραπευτική φροντίδα αναπνευστικού αρρώστου, Εκδόσεις Μίνωας, Αθήνα.
- Μπάρλου Ε., Πανόπουλος Γ. (2006) Αναπνευστική Φυσικοθεραπεία σε Πνευμονικές και μη παθήσεις. Εκδόσεις Σάλτο, Αθήνα.
- Παπαδοπούλου Χ. (2008). Αναπνευστική Φυσικοθεραπεία. Έκδοση ΑΤΕΙ Θεσ/νίκης.

- Μυριανθεύς Π., Μπαλτόπουλος Γ. (2005). Μηχανική υποστήριξη της αναπνοής, Ιατρικές εκδόσεις Πασχαλίδης, Αθήνα.
- Reid W.D., Chung F. (2009). Κλινική Προσέγγιση στην Καρδιοαναπνευστική Φυσικοθεραπεία. (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Πασχαλίδης, Αθήνα.
- Chapman S., Robinson G., Stradling J., West S. (2007). Oxford Εγχειρίδιο Πνευμονολογίας (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Πασχαλίδης, Αθήνα.

**Name of subject: KINESIOTHERAPY (THEORY & LAB)**

**Module Code:** C4

**Module Category:** Specialty-based Module

**Teaching Period:** 3<sup>rd</sup> semester

**Aim of Course:** The application of motion to the rehabilitation of musculoskeletal injuries and the planning of kinisiotherapy programs.

**Content of Course:** Passive, assisted, active motion as therapeutic tools. Open and closed kinetic chain. Plyometrics. Static, dynamic, ballistic stretching. Flexibility. Proprioception training.

**Teaching method:**

- i) Lectures by the teaching professor,
- ii) Discussions on clinical cases between student groups and the teaching professor,
- iii) Student projects presentations (individually or in groups) using valid resources,
- iv) Lectures by guest professors,
- v) Interactive sessions.

**Textbooks/reference material:**

In English:

- Brent Brotzman and Kevin E. Wilk (2003). Clinical Orthopaedic Rehabilitation S. ed. Mosby
- David J. Magee, James E. Zachazewski, William S. Quillen (2008). Scientific Foundations and Principles of Practice in Musculoskeletal Rehabilitation (Musculoskeletal Rehabilitation Series
- Robert E. McAtee (1999). Facilitated stretching, Human Kinetics
- Refshauge K, Gass E (2004). Musculoskeletal physiotherapy, Elsevier
- David H. Perrin (1993). Isokinetic exercise and assessment, Human Kinetics
- Ellenbecker TS, Davies GJ (2001). Closed kinetic chain exercises: a comprehensive guide to multiple joint exercise, Human Kinetics
- Radcliffe J, Farentinos J (2007). High powered plyometrics

- White M. Water exercise (1995). Human Kinetics
- Hollis M, Fletcher P (2006). Practical exercise therapy, Blackwell Publishing Company
- Goldenberg L, Twist P (2007). Strength-ball training, Human Kinetics

In Greek:

- Αθανασόπουλος (1989). *Κινησιοθεραπεία*. Αθήνα (*Kinesiotherapy*)
- Kisner C, Colby LA, (2003). *Θεραπευτικές ασκήσεις. Βασικές αρχές και τεχνικές*. Εκδ. Σιώκης (*Therapeutic Exercises. Basic Principles and Techniques*)
- Κοτζαηλίας Δ (2008). *Φυσικοθεραπεία σε κακώσεις του μυοσκελετικού συστήματος*, University Studio Press (*Physiotherapy in Injuries of the Musculoskeletal System*)

**Name of subject: BIOMECHANICS (THEORY & LAB)**

**Module Code:** C5

**Module Category:** Specific Background Module

**Teaching Period:** 3<sup>rd</sup> semester

**Aim of Course:** Provides students with an in-depth understanding of the developed loads on the human body during various activities and rehabilitation. Connect motion with the effective and safe loading of biomaterials.

**Content of Course:** Mechanical principles and natural laws applied to musculoskeletal system. Kinematics, morphology and mechanical properties of the human joints. Mass, centre of gravity, posture, balance and gait, analysis of reflexes. Methods of monitoring musculoskeletal function such as EMG, motion analysis system etc. Mechanical properties of biomaterials.

**Teaching method:**

- i) Power point presentations,
- ii) Discussions on clinical applications of the curriculum.

**Textbooks/reference material:**

In English:

- Enoka. R. M. (2002). *Neuromechanics of Human Movement-3rd Edition*. Human Kinetics
- Jozsa L. (1997). *Human Tendons - Anatomy, Physiology, and Pathology*. Human Kinetics
- Knudson D., Morrison C (2002). *Qualitative Analysis of Human Movement-2nd Edition* Human Kinetics
- Mac Intosh. B.R. (2006). *Skeletal Muscle-2nd Edition - Form and Function* Human Kinetics
- Nordin. M. (2001). *Basic Biomechanics of the Musculoskeletal System* Lippincot
- Nordin M & Frankel V.H. (1989). *Basic biomechanics of the musculoskeletal system*. Lee & Febiger

- Oatis C.A. (2004). *Kinesiology: The Mechanics & Pathomechanics of Human Movement*. Lippincott Williams & Wilkins
  - Perry J (1992). *Gait analysis. Normal and pathological function*". Slack Incorporated
  - 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
  - Van Mow C. (2004). *Basic Orthopaedic Biomechanics and Mechano-Biology* Lippincott
  - Whittle M.W. (2007). *Gait Analysis, 4th Edition - An Introduction*. Butterworth-Heinemann
- In Greek:
- Πουλμέντης Πέτρος (2007). *Βιολογική μηχανική – Εργονομία*. Εκδόσεις Καπόπουλος (*Biomechanics – Ergonomics*)
  - Ζαφειρόπουλος Γεώργιος (1997). *Λειτουργική Ανατομική - Εμβιομηχανική του μυοσκελετικού συστήματος*. Εκδόσεις Παρισιάνου (*Functional Anatomy – Biomechanics of the Musculoskeletal System*)
  - Τσακλής, Π (2005). *Γενικές Αρχές Εργονομίας και Προληπτική Φυσικοθεραπεία*. University Studio Press (*General Principles of Ergonomics and Preventive Physiotherapy*)
  - Λάιος, Λ., Γιαννακούρου, Μ (2003). *Σύγχρονη Εργονομία*. Εκδόσεις Παπασωτηρίου (*Modern Ergonomics*)

**Name of subject:** PRINCIPLES OF BIOPHYSICS- ELECTROPHYSIOLOGY

**Module Code:** C6

**Module Category:** Specific Background Module

**Teaching Period:** 3<sup>rd</sup> semester

**Aim of Course:** Introduction to the basic principles of biophysics and electrophysiology of the human body. Exploration of the use of electrotherapy and physical agents for the rehabilitation of the muscular and neural function.

**Content of Course:** Elements of biophysics. Evoked potentials, electrostimulation, Electromyography. Direct and alternating currents. Ultraviolet radiation. Laser. Magnetic fields. Ultrasound. Diathermy.

**Teaching method:**

- iii) Power point presentations,
- iv) Discussions on clinical applications of the curriculum.

**Textbooks/reference material:**

In English:

- Aminoff M.J. (2005). *Electrodiagnosis in Clinical Neurology*. 5th ed. Churchill Livingstone.

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

In Greek:

- Γιόκαρης Π. (2007). Κλινική Ηλεκτροθεραπεία (2 τόμοι). Ιατρικές εκδόσεις Λίτσας, Αθήνα.
- Φραγκοράπτης Ε. (2002). Εφαρμοσμένη Ηλεκτροθεραπεία. Εκδόσεις Σάλτο, Θεσ/νίκη.

## 4<sup>th</sup> Semester Modules

**Name of subject:** PHYSIOTHERAPY FOR SPECIAL POPULATIONS (THEORY)

**Module Code:** D1

**Module Category:** Specialty-based Module

**Teaching Period:** 4<sup>th</sup> semester

**Aim of Course:** This course focuses on the specific needs and capabilities of special populations the physiotherapy assessment and the design of safe and effective exercise programs.

**Content of Course:** Assess and train specific patients such as children with special mental difficulties, pregnant women, third age patients, patients with sensory impairments, cardiorespiratory problems and mental retardation.

**Teaching method:**

- i) Brainstorming,
- ii) Theoretical presentations on each disease, as well as questions-answers.
- iii) Specifically, subjects displayed are the reasoning of a disease, the physical and kinetic characteristics developed by the persons suffering from a disease.
- iv) Also, the goals and benefits from exercise, as well as the means used are presented and the indications and contraindications of exercise are remarked.

**Textbooks/reference material:**

In English:



- 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
  - Kisner C, Colby LA. (2007). Therapeutic Exercise. Foundations and Techniques. 5<sup>th</sup> ed. F. A. Davis Company, Philadelphia
  - Miller P.D. (1995). Fitness programming and physical disability. Human Kinetics, Champaign, Illinois
  - Rimmer J.H. (1993). Fitness and rehabilitation programs for special populations. McGraw-Hill
  - Shepherd R.B. (1995). Physiotherapy in paediatrics. 3<sup>rd</sup> ed. Butterworth-Heinemann, Oxford
- In Greek:
- Λαμπίρης Η.Ε. (2003). *Ορθοπαιδική και Τραυματιολογία*. Ιατρικές Εκδόσεις Πασχαλίδη, Αθήνα (*Orthopaedics and Traumatology*)
  - Χριστοδούλου Γ.Ν., Κονταξάκης Β.Π. (2000). *Η Τρίτη ηλικία*. Εκδ. Βήτα, Αθήνα (*The Third Age*)
  - Kisner C., Colby L.A. (2003). *Θεραπευτικές Ασκήσεις. Βασικές Αρχές και Τεχνικές*. (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Σιώκη, Θεσσαλονίκη (*Therapeutic Exercise. Foundations and Techniques*)

**Name of subject:** CLINICAL CARDIORESPIRATORY PHYSIOTHERAPY (THEORY & LAB)

**Module Code:** D2

**Module Category:** Specialty-based Module

**Teaching Period:** 4<sup>th</sup> semester

**Aim of Course:** Provide students with an in-depth understanding of the specific nature of respiratory diseases and their clinical assessment. Develop skills for breathing facilitation, expectoration and the improvement of respiratory muscles properties.

**Content of Course:** Kinematic analysis of breathing. Clinical assessment of respiratory function, damage – diseases. Post operation respiratory physiotherapy. Airway clearance techniques. Chronic obstructive pulmonary disease, asthma etc. The impact of thoracic spine deformities (e.g. scoliosis) on respiration. Intensive care unit, mechanical ventilation.

**Teaching method:**

- i) The teaching method includes classic theoretical presentations.
- ii) Brainstorming,
- iii) Theoretical presentations on each disease, as well as questions-answers.

**Textbooks/reference material:**

In English:

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

In Greek:

- Γραμματοπούλου Ε., Βαβουράκη Ε. (1999). *Αναπνευστική Φυσικοθεραπεία*. Έκδοση ΤΕΙ Αθήνας (*Respiratory Physiotherapy*)
- Ελληνική Εταιρεία Εντατικής Θεραπείας (2003). *Φυσικοθεραπεία στη μονάδα εντατικής θεραπείας* (*Physiotherapy in Intensive Care Unit*)
- Μπάρλου Πανοπούλου Ε. (2003). *Φυσικοθεραπευτική φροντίδα αναπνευστικού αρρώστου*, Εκδόσεις Μίνωας, Αθήνα (*Physiotherapeutic Care of Respiratory Patient*)
- Μπάρλου Ε., Πανόπουλος Γ. (2006) *Αναπνευστική Φυσικοθεραπεία σε Πνευμονικές και μη παθήσεις*. Εκδόσεις Σάλτο, Αθήνα (*Respiratory Physiotherapy in Pulmonary and not Diseases*)
- Παπαδοπούλου Χ. (2008). *Αναπνευστική Φυσικοθεραπεία*. Έκδοση ΑΤΕΙ Θεσ/νίκης (*Respiratory Physiotherapy*)
- Μυριανθεύς Π., Μπαλτόπουλος Γ. (2005). *Μηχανική υποστήριξη της αναπνοής*, Ιατρικές εκδόσεις Πασχαλίδης, Αθήνα (*Mechanical Breathing Support*)
- Reid W.D., Chung F. (2009). *Κλινική Προσέγγιση στην Καρδιοαναπνευστική Φυσικοθεραπεία*. (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Πασχαλίδης, Αθήνα (*Clinical Approach in Cardiopulmonary Physiotherapy*)
- Charpman S., Robinson G., Stradling J., West S. (2007). *Oxford Εγχειρίδιο Πνευμονολογίας* (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Πασχαλίδης, Αθήνα (*Oxford Manual of Pneumology*)

**Name of subject:** Principles of Musculoskeletal Physiotherapy (Theory & Lab)

**Module Code:** D3

**Module Category:** Specific Background Module

**Teaching Period:** 4<sup>th</sup> semester

**Aim of Course:** This course concentrates on the deep understanding of the physiotherapy assessment and management of musculoskeletal disorders preparing students to diagnose, manage and treat musculoskeletal injuries in an evidence-based approach.

**Content of Course:** Physiotherapy assessment and rehabilitation after fractures, sprains, dislocations, subluxations. Tendon, chondral and nerve injuries

**Teaching method:** The teaching method includes classic theoretical presentations.

**Textbooks/reference material:**

In English:

- Braddom R.L. (2002). Practical guide to musculoskeletal disorders: diagnosis and rehabilitation, 2nd ed. Butterworth-Heinemann, Boston.
- Clarkson H.M. (2006). Musculoskeletal assessment: joint range of motion and manual muscle strength. Lippincott Williams & Wilkins, Philadelphia.
- Cleland J. (2005). Orthopaedic clinical examination: an evidence-based approach for physical therapists. Icon Learning Systems, Carlstadt, N.J.
- Hertling D. (2006). Management of common musculoskeletal disorders: physical therapy principles and methods. 4th ed. Lippincott Williams & Wilkins, Philadelphia.
- Kesson M., Atkins E. (2005). Orthopaedic medicine: a practical approach. 2nd ed. Butterworth-Heinemann, Edinburgh.
- Kisner C., Colby L.A. (2007). Therapeutic Exercise. Foundations and Techniques. 5th ed. F. A. Davis Company, Philadelphia.
- Magee D.J. (2002), Orthopaedic Physical Assessment. 4th ed. W.B. Saunders, Philadelphia.
- Malanga G.A., Nadler S. (2006). Musculoskeletal physical examination: an evidence-based approach. Mosby, Philadelphia.
- Refshauge K.M., Gass E.M. (2004). Musculoskeletal physiotherapy: clinical science and evidence-based practice. 2nd ed. Butterworth-Heinemann, Edinburgh.
- Salter R.B. (1999). Textbook of disorders and injuries of the musculoskeletal system. 3rd ed. Lippincott Williams and Wilkins, Philadelphia.
- Tidswell M.E. (1998). Orthopaedic physiotherapy. Mosby, London.
- Voight L.M., Hoogenbo B.J. (2007). Musculoskeletal interventions: techniques for therapeutic exercise. McGraw-Hill, Medical, New York.
- Wiggins C.E. (2007). A concise guide to orthopaedic and musculoskeletal impairment ratings. Lippincott Williams & Wilkins, Philadelphia.

In Greek:

- Κοτζαηλίας Δ. (2008). Φυσικοθεραπεία σε κακώσεις του μυοσκελετικού συστήματος, University Press.
- Λαμπίρης Η.Ε. (2003). Ορθοπαιδική και Τραυματολογία. Ιατρικές Εκδόσεις Πασχαλίδη, Αθήνα.
- Συμεωνίδης Π. Π. (1997). Ορθοπαιδική: κακώσεις και παθήσεις του μυοσκελετικού συστήματος, 2η έκδ., University Studio Press, Θεσσαλονίκη.
- Hoppenfeld S (2000). Ορθοπαιδική Νευρολογία. (Μετάφραση Αγγλικής Έκδοσης), Εκδ. Παρισιάνου, Αθήνα.
- Kisner C, Colby LA. (2003) Θεραπευτικές Ασκήσεις. Βασικές Αρχές και Τεχνικές, (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Σιώκη, Θεσσαλονίκη.

**Name of subject: PHYSIOTHERAPY ASSESSMENT (THEORY & LAB)**

**Module Code:** D4

**Module Category:** Specialty-based Module

**Teaching Period:** 4<sup>th</sup> semester

**Aim of Course:** This course introduces and prepares students to the methodology of physiotherapy assessment. This is based on collecting subjective and objective findings before setting goals and programming the treatment.

**Content of Course:** Selection of reliable and valid assessment tools. Utility of these tools in a valid way. Organize the subjective and objective findings. Set goals, prioritize problems and design the treatment protocol

**Teaching method:**

- i) Power point presentations,
- ii) Discussions on clinical applications included in the curriculum.

**Textbooks/reference material:**

In English:

- Evaluation of Orthopaedic and Athletic Injuries, 2<sup>nd</sup> Ed. C Starkey, FA Davies 2002
- Orthopaedic Physical Assessment by David J. Magee PhD BPT, Saunders 2007
- Cameron M.H. (2007). Physical Rehabilitation - Evidence-Based Examination, Evaluation, and Intervention. Saunders.
- Cleland J. (2005). Orthopaedic Clinical Examination - An Evidence Based Approach for Physical Therapists Saunders.
- Cyriax J. (2003). "Orthopaedic Medicine. Part I: Clinical examination and diagnosis". OPTP, USA.
- Dutton M. (2004). Orthopaedic Examination, Evaluation, and Intervention (Hardcover) McGraw-Hill Medical.

- Goodman C. C. (2007). Differential Diagnosis for Physical Therapists, 4th Edition - Screening for Referral Saunders.
- Kisner C., Colby L. (2002). "Therapeutic Exercise Foundations and Techniques", FA Davis.
- Lephart S, Fu F. (2000). "Proprioception and neuromuscular control in joint stability". Human Kinetics.
- Melzack R & Wall P. (2006). "Textbook of pain". 5th edition. Churchill Livingstone.

In Greek:

- Daniels L. (2000). Worthingham S. Έλεγχος Μυϊκής Λειτουργικής Ικανότητας. Παρισιάνου (*Control of Muscle Functional Ability*)
- Hoppenfield S (1993). Φυσική εξέταση της σπονδυλικής στήλης και των άκρων. Παρισιάνου (*Normal Examination of the Spine and Limbs*)
- Hoppenfeld S (2000). Ορθοπαιδική Νευρολογία. Αθήνα, Μαρία Γρ. Παρισιάνου (*Orthopaedic Neurology*)
- Vaccaro A. (2006). Κλινική Εξέταση της Σπονδυλικής Στήλης. Πασχαλίδης (*Clinical Examination of the Spine*)

**Subject: PHYSICAL MODALITIES – APPLIED ELECTROTHERAPY I (THEORY & LAB)**

**Module Code:** D5

**Module Category:** Specialty-based Module

**Teaching Period:** 4<sup>th</sup> semester

**Aim of Course:** Introduction to physical modalities and understanding of the physiological changes caused after their application. Students learn how to perform safely electrotherapy for healing different types of injured tissues.

**Content of Course:** Introduction to electrotherapy. Neuromuscular electrostimulation, TENS, FES, iontophoresis, Laser, Sock wave, EMG Biofeedack. Indications and contra-indications.

**Teaching method:**

- i) Classic theoretical presentations,
- ii) Project presentations by students,
- iii) Discussions with students groups assigned with an issue briefing.

**Textbooks/reference material:**

In English:

- Aminoff M.J. (2005). Electrodiagnosis in Clinical Neurology. 5<sup>th</sup> ed. Churchill Livingstone
- Blum A.S., Rutkove S.B. (2007). The Clinical Neurophysiology Primer CD-ROM. Springer, Heidelberg
- Glaser R. (2004). Biophysics: An Introduction. Springer, Heidelberg

- Haken H. (2008). Brain Dynamics: An Introduction to Models and Simulations. 2<sup>nd</sup> ed. Springer, Heidelberg
- Robinson A.J, Snyder-Mackler L. (2007). Clinical Electrophysiology: Electrotherapy and Electrophysiologic Testing. 3<sup>rd</sup> ed. Lippincott Williams & Wilkins
- Zimetbaum P.J., Josephson M.E. (2008). Practical Clinical Electrophysiology. 1<sup>st</sup> ed. Lippincott Williams & Wilkins, Philadelphia

In Greek:

- Γλόκαρης Π. (2007). Κλινική Ηλεκτροθεραπεία (2 τόμοι). Ιατρικές εκδόσεις Λίτσας, Αθήνα (*Clinical Electrotherapy, 2 Volumes*)
- Φραγκοράπτης Ε. (2002). Εφαρμοσμένη Ηλεκτροθεραπεία. Εκδόσεις Σάλτο, Θεσ/νίκη (*Applied Electrotherapy*)

## 5<sup>th</sup> Semester Modules

**Name of subject:** FIRST AID (THEORY)

**Module Code:** E1

**Module Category:** General Background Module

**Teaching Period:** 5<sup>th</sup> semester

**Aim of Course:** The course focuses in preparing students to identify life threatening conditions and provide immediate support to patients. Emphasis is given on cardiopulmonary resuscitation (CPR), treatment of burns, bites, stings, electric shock and poisons.

**Content of Course:** Basic concepts of first aid. Assessment of neurological, cardiopulmonary and orthopaedic injuries. Examination and treatment of integumentary system (wounds, burns, bites, stings, skin ulcers, traumatic injuries etc.). Control of bleeding, foreign body removal, debridement, support of fractures and dislocations. Hypothermia, heat stroke, electric shock and poisons. Carrying injured individuals. Emergency tracheotomy

**Teaching method:**

- i) Classic theoretical presentations,
- ii) Organisation of student groups assigned with projects on specific cases.

**Textbooks/reference material:**

In English:

- American Medical Association (2009). Handbook of First Aid and Emergency Care. American Medical

Association

In Greek:

- Γερμενής Α.Ε. (2007). *Μαθήματα Πρώτων Βοηθειών Για Επαγγέλματα Υγείας*. Εκδόσεις Βήτα (*First Aid Training for Health Professions*)
- Γκούρτσας Ν.Β. (2008). *First Aid: Πρώτες Βοήθειες*. Εκδόσεις Δίσιγμα , Θεσ/νίκη
- Τσούσκας Λ. (2000). *Πρώτες Βοήθειες*. University Studio Press (*First Aid*)
- Τσούσκας Λ. (2007). *Επείγουσα Νοσηλευτική Φροντίδα, Πρώτες Βοήθειες*. University Studio Press (*Emergency Nursing Care, First Aid*)
- Kohnlein H. E., Weller S., Vogel W., Nobel J., Meinertz H. *Πρώτες Βοήθειες*. (Μετάφραση Αγγλικής Έκδοσης) Επιστημονικές εκδόσεις Παρισιάνου, 2009 (*First Aid*)
- Redmond A., Mahoney R., Rayan J., MacNab C. *ABC στις συγκρούσεις και στις καταστροφές*. (Μετάφραση Αγγλικής Έκδοσης) Επιστημονικές εκδόσεις Παρισιάνου, 2009 (*ABC for Collisions and Disasters*)

**Name of subject:** CLINICAL MUSCULOSKELETAL PHYSIOTHERAPY I (THEORY & LAB)

**Module Code:** E2

**Module Category:** Specialty-based Module

**Teaching Period:** 5<sup>th</sup> semester

**Aim of Course:** This is the first course in the two-course Musculoskeletal physiotherapy sequence, preparing students to diagnose, manage and treat acute and chronic musculoskeletal injuries- both conservatively and post-surgically for the upper and lower limb

**Content of Course:** Physiotherapeutic assessment and intervention for degenerative osteoarthritis, rheumatological diseases, autoimmune diseases, chronic syndromes (frozen shoulder, overuse syndromes, anterior knee pain, etc), pre- and postoperative (knee arthroplasty, hip arthroplasty, etc) and peripheral nerve injuries.

**Teaching method:**

- i) Power point presentations,
- ii) Interactive sessions on the clinical applications of each taught unit.

**Textbooks/reference material:**

In English:

- Pathology and Intervention in Musculoskeletal Rehabilitation (Musculoskeletal Rehabilitation Series) by David J. Magee PhD BPT, James E. Zachazewski DPT SCS ATC, and William S. Quillen. Saunders 2008

- Braddom R. L. (2002). Practical guide to musculoskeletal disorders: diagnosis and rehabilitation. 2<sup>nd</sup> ed. Butterworth-Heinemann, Boston.
- Cleland J. (2005). Orthopaedic clinical examination: an evidence-based approach for physical therapists. Icon Learning Systems, Carlstadt, N.J.
- Hertling D. (2006). Management of common musculoskeletal disorders: physical therapy principles and methods. 4<sup>th</sup> ed. Lippincott Williams & Wilkins, Philadelphia.
- Kesson M, Atkins E. (2005). Orthopaedic medicine: a practical approach. 2<sup>nd</sup> ed. Elsevier / Butterworth - Heinemann, Edinburgh.
- Kisner C., Colby L.A. (2007). Therapeutic Exercise. Foundations and Techniques. 5<sup>th</sup> Ed. F. A. Davis Company, Philadelphia.
- Magee D.J. (2002), Orthopaedic Physical Assessment. 4<sup>th</sup> Ed. W.B. Saunders, Philadelphia.
- Malanga G.A., Nadler S. (2006). Musculoskeletal physical examination: an evidence - based approach. Elsevier Mosby, Philadelphia.
- Refshauge K.M., Gass E.M. (2004). Musculoskeletal physiotherapy: clinical science and evidence -based practice. 2<sup>nd</sup> ed. Butterworth-Heinemann, Edinburgh.
- Salter R.B. (1999). Textbook of disorders and injuries of the musculoskeletal system. 3<sup>rd</sup> ed. Lippincott Williams and Wilkins, Philadelphia.
- Tidswell M E. (1998). Orthopaedic physiotherapy. Mosby, London.
- Voight L.M., Hoogenbo B.J. (2007). Musculoskeletal interventions: techniques for therapeutic exercise. McGraw-Hill, Medical, New York.
- Wiggins C.E. (2007). A concise guide to orthopaedic and musculoskeletal impairment ratings. Lippincott Williams & Wilkins, Philadelphia.

In Greek:

- Κοτσαηλίας Δ. (2008). *Φυσικοθεραπεία σε κακώσεις του μυοσκελετικού συστήματος*, University Press (*Physiotherapy in Injuries of the Musculoskeletal System*)
- Λαμπίρης Η.Ε. (2003). *Ορθοπαιδική και Τραυματολογία*. Ιατρικές Εκδόσεις Πασχαλίδη, Αθήνα (*Orthopaedics and Traumatology*)
- Συμεωνίδης Π. Π. (1997). *Ορθοπαιδική: κακώσεις και παθήσεις του μυοσκελετικού συστήματος*, 2η έκδ., University Studio Press, Θεσσαλονίκη (*Orthopaedics: Injuries and Diseases of the Musculoskeletal System*)
- Hoppenfeld S (2000). *Ορθοπαιδική Νευρολογία*. (Μετάφραση Αγγλικής Έκδοσης), Εκδ. Παρισιάνου, Αθήνα (*Orthopaedic Neurology*)
- Kisner C, Colby LA. (2003) *Θεραπευτικές Ασκήσεις. Βασικές Αρχές και Τεχνικές*, (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Σιώκη, Θεσσαλονίκη (*Therapeutic Exercise. Foundations and Techniques*)



**Name of subject: PRINCIPLES OF NEUROLOGICAL PHYSIOTHERAPY (THEORY)****Module Code:** E3**Module Category:** Specific Background Module**Teaching Period:** 5<sup>th</sup> semester**Aim of Course:** The assessment of neurological patients and the principles of the therapeutic interventions aimed at these patients. Assessment of the motor and functional deficits of neurological patients and planning of the rehabilitation program.**Content of Course:** Clinical and laboratory tools of neurological assessment (scales, functional tests, EMG, etc). Popular rehabilitation approaches (PNF, Bobath, motor learning, forced use, virtual reality, FES, biofeedback, etc) for the neurological patient (upper & lower motor neurone syndrome, extrapyramidal syndromes, somatosensory deficits, perceptive & cognitive deficits).**Teaching method:**

- i) Power point presentations,
- ii) Interactive sessions
- iii) Discussions on clinical case studies between lecturer and students
- iv) Presentations by guest lecturers
- v) Discussions by student groups assigned with a mini-project on a clinical level
- vi) Mini homeworks prepared by students based on new research
- vii) Discussions via emails or other electronic platforms

**Textbooks/reference material:**In English:

- Adler S.S, Beckers D., Buck M. (2000). PNF in practise: An illustrated Guide. 3th ed. Springer.
- Cakit D.B., Saracoglou M., Genc H., Erdem R.H., Levent inan (2007). The effects of incremental speed-dependent treadmill training on postural instability and fear of falling in Parkinson's Disease. *Clinical Rehabilitation*, Vol. 21, pp 698-705.
- Carr J., Shepherd R. (1998). Neurological Rehabilitation - optimizing motor performance. Butterworth Heinemann, Oxford.
- Madhu K. (2008). Brain development: anatomy, connectivity, adaptive plasticity, and toxicity. *Metabolism Clinical and Experimental* 57 (Suppl 2): 2–5.
- Shumway-Cook & Woollacot (2007). *Motor Control*. 3th ed. Lippincot Williams-Wilkins.
- Smith K.L., Weiss L.E., Lehmkuhl (1996). *Brunnstrom's Clinical Kinesiology*. F. A. Davis Company.

In Greek:

- Bobath B. (2005) Ενήλικας Ημιπληγικός. (Μετάφραση Αγγλικής Έκδοσης) Επιστημονικές Εκδόσεις Παρισιάνου, Αθήνα.
- Carr J., Shepherd R. (2004) Νευρολογική Αποκατάσταση. (Μετάφραση Αγγλικής Έκδοσης) Επιστημονικές Εκδόσεις Παρισιάνου, Αθήνα.

**Name of subject: SPECIAL TECHNIQUES IN MANUAL THERAPY (THEORY & LAB)**

**Module Code:** E4

**Module Category:** Specialty-based Module

**Teaching Period:** 5<sup>th</sup> semester

**Aim of Course:** Basic principles for the differential clinical diagnosis and rehabilitation of the articular system through the use of mobilization and manipulation techniques. Clinical reasoning for deciding the optimal therapeutic mobilization technique for specific musculoskeletal dysfunctions. Clinical assessment of the biomechanical behavior of the peripheral nervous system and application of neurodynamic tests.

**Content of Course:** Differential diagnosis of tissues (bones, ligaments, tendons, muscles, neural tissue, fasciae, skin) responsible for the restriction of joint motion. Basic principles of osteokinematics and artrokinematics of the upper & lower limb and the spine. Basic kinds of joint mobilization and their application for the assessment of joint mobility. Biomechanical and neurophysiological mechanisms underlying the basic principles for manipulation and mobilization techniques. Introduction to mobilization concepts (Maitland, Kaltenborn, etc).

**Teaching method:**

- i) Suggestions and lectures from the teaching professor,
- ii) Clinical case study discussions.
- iii) Interactive sessions
- iv) Discussions via emails or other electronic platforms

**Textbooks/reference material:**

In English:

- Boyling J.D., Palastanga N. (1994). Grieve's Modern Manual Therapy. 2<sup>nd</sup> ed. Churchill Livingstone, London
- Butler, D.S. (2000). The Sensitive Nervous System. Noigroup publications, Australia.
- Jones M.A., Rivett D.A. (2004). Clinical reasoning for manual therapists. Butterworth-Heinemann, Edinburgh.
- Kaltenborn F.M. (1970). Mobilisation of the Spinal Column. New Zealand University Press, Wellington

- Kaltenborn F.M., Evjenth O., Kaltenborn T.B., Morgan D., Vollowitz E. (1999). Manual Mobilisation of the joints. The extremities. Olaf Norlis Bokhandel, Oslo
- Kisner C., Colby L.A. (2007). Therapeutic Exercise. Foundations and Techniques. 5<sup>th</sup> ed. F. A. Davis Company, Philadelphia
- Maitland et al. (2001). Maitland's Vertebral Manipulation. 6<sup>th</sup> ed. Butterworth-Heinemann, Oxford
- Maitland G.D. (1991). Peripheral Manipulation. 3<sup>rd</sup> Ed., Butterworth – Heinemann, Oxford.
- Petty N.J. (2006). Neuromusculoskeletal examination and assessment: a handbook for therapists. Elsevier / Churchill Livingstone, Edinburgh.
- Mulligan B.R. (1995). Manual Therapy "Nags", "Snags", "MWM" etc. Plane View Services Ltd. 3<sup>rd</sup> Ed. New Zealand.
- Shacklock M.O. (2005). Clinical neurodynamics: a new system of musculoskeletal treatment. Elsevier Butterworth-Heinemann, Edinburgh.

In Greek:

- Κιτσούλης Γ. (1999). *Manual Therapy. Εξέταση-Αξιολόγηση του Μυοσκελετικού Συστήματος*, Ιωάννινα (*Manual Therapy. Examination-Evaluation of the Musculoskeletal System*)
- Πετρούτσος Σ. (2004). *Δια των χειρών θεραπεία της σπονδυλικής στήλης και των πλευρών. Επιστημονικές εκδόσεις Παρισιάνου, Αθήνα* (*Manual Therapy of the Spine and Sides*)
- Kisner C., Colby L.A. *Θεραπευτικές Ασκήσεις. Βασικές Αρχές και Τεχνικές*, (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Σιώκη, Θεσσαλονίκη, 2003 (*Therapeutic Exercise. Foundations and Techniques*)
- Mulligan B.R. (2006). *Θεραπευτικοί Χειρισμοί 'Nags', 'Snags', 'MWM'*, (Μετάφραση Αγγλικής Έκδοσης), De Novo, Θεσσαλονίκη (*Manual Therapy "Nags", "Snags", "MWM" etc*)

**Name of subject:** PHYSIOLOGY OF THERAPEUTIC EXERCISE (THEORY)

**Module Code:** E5

**Module Category:** Specialty-based Module

**Teaching Period:** 6<sup>th</sup> semester

**Aim of Course:** Function of muscular, respiratory, nervous, circulatory and endocrinal system during body work with emphasis on therapeutic exercise. Short- and long term effects of therapeutic exercise in the various systems of the human body. Clinical and laboratory methods of assessment of physical performance.

**Content of Course:** Characteristics of various types of muscle fibers, energy sources, different types of metabolism (aerobic, anaerobic, etc) under conditions of physical effort. Characteristics of the use of

energy sources regarding the duration, the intention and the frequency of exercise for the successful planning of an exercise regime, such as the aerobic and anaerobic threshold and maximal oxygen consumption. Basic types of exercise for achieving specific aims (e.g. strengthening, improvement of aerobic capacity, etc). Effect of various types of exercise on the systems of the human body (cardiovascular, respiratory, nervous, muscular, etc).

**Teaching method:**

- i) Lectures by the teaching professor,
- ii) Clinical case study discussions. Interactive sessions
- iii) Discussions on clinical case studies between lecturer and students
- iv) Discussions via emails or other electronic platforms

**Textbooks/reference material:**

In English:

- AACVPR (2004). Guidelines for Cardiac Rehabilitation and Secondary Prevention Programs-4th Edition Human Kinetics.
- AACVPR (2004).Guidelines for Pulmonary Rehabilitation Programs-3rd Edition Human Kinetics.
- ACSM's exercise management for persons with chronic diseases and disabilities (1997). American College of Sports Medicine, Champaign: Human Kinetics.
- American College of Sports Medicine (2010). ACSM's Introduction to Exercise Science (American College/Sports Medicine), Lippincott Williams & Wilkins.
- Abernethy B.(2006). The biophysical foundations of human movement, Champaign: Human Kinetics, c2005 Michael Gleeson. Immune function in sport and exercise, Edinburgh: Elsevier/Churchill Livingstone.
- Adams G., Beam W (2010). Exercise Physiology Laboratory Manual, McGraw-Hill Humanities.
- Armstrong N.(2007). Paediatric Exercise Physiology Churchill Livingstone.
- Bouchard C., Blair S.N., Haskell W.L., Hoffman J. (2006). Physical Activity And Health. Norms for Fitness, Performance, And Health (Paperback) Human Kinetics.
- Bromley P.D. (2010). Clinical Skills for Exercise Science, Routledge.
- Cerny F. (2001). Exercise Physiology for Health Care Professionals Human Kinetics.
- Ehrman, J. K., Gordon, P., Visich, P.S., Keteyian S.J. (2009). Clinical Exercise Physiology, Human Kinetics.
- Jones D.A. (2004). Skeletal Muscle - A Textbook of Muscle Physiology for Sport, Exercise and Physiotherapy Churchill Livingstone.
- Larry K.W. (1995). ACSM's guidelines for exercise testing and prescription / American College of Sports Medicine, American College of Sports Medicine , Baltimore :Williams & Wilkins.

- Maud P.J., Foster C. (2006). Physiological Assessment Of Human Fitness (Hardcover). Human Kinetics 2nd edition.
- Reilly T. (2005). Sport Exercise and Environmental Physiology Churchill Livingstone.
- Saltin B. (2000). Exercise and Circulation in Health and Disease. Human Kinetics.

In Greek:

- Κλεισούρας Β. (2004). Εργοφυσιολογία (Τόμοι I, II, III), Εκδόσεις Πασχαλίδης..
- Amoretti R., Brion R. Η καρδιολογία της άσκησης. Παρισιάνος 2000.
- Burr B. Nagi D. Άσκηση και αθλητισμός στο διαβήτη. Παρισιάνος 2000.
- McArdle WB, Katch FL, Katch VL (2001). Φυσιολογία της Άσκησης (Τόμοι I, II, III), Εκδόσεις Πασχαλίδης.
- Wilmore J., Costill D (2006). Φυσιολογία της Άσκησης και του Αθλητισμού (Τόμοι I, II, III), Εκδόσεις Πασχαλίδης.

## 6<sup>th</sup> Semester Modules

**Name of subject:** CLINICAL MUSCULOSKELETAL PHYSIOTHERAPY II (THEORY & LAB)

**Module Code:** F1

**Module Category:** Specialty-based Module

**Teaching Period:** 6<sup>th</sup> semester

**Aim of Course:** This course prepares students to evaluate, manage and treat with safety and effectiveness musculoskeletal deformities and disorders of spine. It mainly concentrates in post-operation goals setting and rehabilitation

**Content of Course:** Assessment of human spinal deformities (scoliosis) and musculoskeletal syndromes and disorders. Treatment of self-immune and metabolic diseases of spine, osteoarthritis, rheumatoid arthritis. Post surgery (arthroscopy, spondylodesia) physiotherapy.

**Teaching method:**

- v) Lectures by the teaching professor,
- vi) Clinical case study discussions.

**Textbooks/reference material:**

In English:

- Baldry P. (2005). Acupuncture, trigger points and musculoskeletal pain: a scientific approach to acupuncture for use by doctors and physiotherapists in the diagnosis and management of myofascial trigger point pain. Elsevier/Churchill Livingstone, Edinburgh

- Boyling JD, Palastanga N (1994), (eds), Grieve's Modern Manual Therapy, 2<sup>nd</sup> Edition, Churchill Livingstone, London
- Braddom R. L. (2002). Practical guide to musculoskeletal disorders: diagnosis and rehabilitation, Butterworth-Heinemann, 2nd ed. Boston
- Butler, DS, (2000). The Sensitive Nervous System, Noigroup publications, Australia.
- Chaitow L. (2006), Muscle energy techniques. Churchill Livingstone /Elsevier, New York
- Clarkson H. M. (2006). Musculoskeletal assessment: joint range of motion and manual muscle strength. Lippincott Williams & Wilkins, Philadelphia
- Cleland J. (2005). Orthopaedic clinical examination: an evidence-based approach for physical therapists. Icon Learning Systems, Carlstadt, N.J.
- Corrigan B, Maitland GD (1983), Practical Orthopaedic Medicine, Butterworth-Heinemann, Cambridge
- Corrigan B, Maitland, G. D. (1994). Musculoskeletal and sports injuries, Butterworth-Heinemann, Oxford
- Denegar C.R., Saliba E, Saliba S (2006). Therapeutic modalities for musculoskeletal injuries: athletic training education series. Human Kinetics, 2nd ed., United States

In Greek:

- Κοτζαηλίας Δ. (2008). *Φυσικοθεραπεία σε κακώσεις του μυοσκελετικού συστήματος*, University Press (*Physiotherapy in Injuries of the Musculoskeletal System*)
- Λαμπίρης Η.Ε. (2003). *Ορθοπαιδική και Τραυματολογία*. Ιατρικές Εκδόσεις Πασχαλίδη, Αθήνα (*Orthopaedics and Traumatology*)
- Συμεωνίδης Π.Π. (1997). *Ορθοπαιδική: κακώσεις και παθήσεις του μυοσκελετικού συστήματος*, 2<sup>η</sup> έκδ. University Studio Press, Θεσσαλονίκη (*Orthopaedics: Injuries and Diseases of the Musculoskeletal*)
- Hoppenfeld S. (2000) *Ορθοπαιδική Νευρολογία* (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Παρισιάνου, Αθήνα (*Orthopaedic Neurology*)
- Kisner C., Colby L.A. (2003) *Θεραπευτικές Ασκήσεις. Βασικές Αρχές και Τεχνικές*. (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Σιώκη, Θεσσαλονίκη (*Therapeutic Exercise. Foundations and Techniques*)

**Name of subject:** CLINICAL NEUROLOGICAL PHYSIOTHERAPY I (THEORY & LAB)

**Module Code:** F2

**Module Category:** Specialty-based Module

**Teaching Period:** 6<sup>th</sup> semester

**Aim of Course:** This course aims to support students with in-depth knowledge of the physiological kinetic neurodevelopment. Emphasis is given on neurodevelopmental disorder- assessment and treatment.

**Content of Course:** Neurodevelopmental stages and physiological changes at every position (supine, prone, sitting, standing). Recognition of abnormal signs at every stage. Assessment, prognosis and setting therapeutic goals in cerebral palsy, polyneuropathies, myopathies. Rehabilitation techniques.

**Teaching method:**

- i) Audiovisual means (video projections)
- ii) Student projects
- iii) Clinical presentations

**Textbooks/reference material:**

In English:

- Campell S, Palisano JR, Vander WD (2006): Physical Therapy for Children. Published by Saunders
- Shumway-Cook & Woollacot (2007): Motor Control, 3<sup>rd</sup> edition. Published by Lippincot Williams-Wilkins
- Adler S.S, Beckers D., Buck M. (2000). PNF in practise: An illustrated Guide. 3<sup>th</sup> ed. Springer
- Cakit D.B., Saracoglou M., Genc H., Erdem R.H., Levent inan (2007). The effects of incremental speed-dependent treadmill training on postural instability and fear of falling in Parkinson's disease. Clinical Rehabilitation, Vol. 21, pp 698-705
- Carr J., Shepherd R. (1998). Neurological Rehabilitation - optimizing motor performance. Butterworth Heinemann, Oxford.
- Madhu K. (2008). Brain development: anatomy, connectivity, adaptive plasticity, and toxicity. Metabolism Clinical and Experimental 57 (Suppl 2): 2–5.
- Smith K.L., Weiss L.E., Lehmkuhl (1996). Brunnstrom's Clinical Kinesiology. F. A. Davis Company.

In Greek:

- Bobath B. (2005) *Ενήλικας Ημιπληγικός*. (Μετάφραση Αγγλικής Έκδοσης) Επιστημονικές Εκδόσεις Παρισιάνου, Αθήνα (*Hemiplegic Adult*)
- Carr J., Shepherd R. (2004) *Νευρολογική Αποκατάσταση*. (Μετάφραση Αγγλικής Έκδοσης) Επιστημονικές Εκδόσεις Παρισιάνου, Αθήνα (*Neurological Rehabilitation*)

**Name of subject:** DIAGNOSTIC IMAGING (THEORY)

**Module Code:** F3

**Module Category:** Specific Background Module

**Teaching Period:** 6<sup>th</sup> semester

**Aim of Course:** The course aims to introduce students into various medical imaging techniques and their special characteristics. Students learn about their application and diagnostic effectiveness in various pathological conditions especially in musculoskeletal diseases.

**Content of Course:** Introduction to medical imaging techniques. Basic X-Ray findings in spinal column and limbs. Radiology, ultrasound, scintiscan, CT-scan, MRI of the various human body systems. Phlebography, arteriography. Sensitivity, specificity and accuracy of medical imaging techniques.

**Teaching method:**

- i) Classic theoretical presentations,
- ii) Student projects presentations,
- iii) Discussions with student groups assigned with an issue briefing.

**Textbooks/reference material:**

In English:

- DeMaio D. (1996). Registry review in Computed Tomography. Saunders.
- Guy C., Fytche D. (2005). An introduction to the principles of Medical Imaging. Imperial College Press, London.
- Mitchell A. Cockburn J.F., Lim A. (2003). Grainger & Allison's Diagnostic Radiology. Churchill Livingstone.
- Pope T. (2010). High-yield Imaging: Musculoskeletal. Saunders.
- Ryan S., McNicholas M., Eustace S.J. (2010). Anatomy for diagnostic Imaging. Saunders.

In Greek:

- Αλειφερόπουλος Δ. (2004). *Οστά και Αρθρώσεις*. Εκδόσεις Λίτσας, Αθήνα (*Bones and Articulations*)
- Αλειφερόπουλος Δ., Πάνου, Θ. (2004). *Ακτινογραφική απεικόνιση*. Εκδόσεις Βήτα, Αθήνα (*Radiographic Imaging*)
- Βαρσαμίδης, Κωνσταντίνος (2002). *Στοιχεία βιοϊατρικής διαγνωστικής απεικόνισης*. University Studio Press (*Elements of Biomedical Diagnostic Imaging*)

**Name of subject:** **ERGONOMY-PREVENTIVE PHYSIOTHERAPY (THEORY)**

**Module Code:** F4

**Module Category:** Specific Background Module

**Teaching Period:** 6<sup>th</sup> semester



**Aim of Course:** Students learn the basic principles of protection and rehabilitation of musculoskeletal problems caused at work, through an in-depth understanding of the developed loads on the human body during various activities and the danger for musculoskeletal injuries.

**Content of Course:** Ergonomical principles and natural laws applied to musculoskeletal system. Recognition of inappropriate posture and unsafe loading of biomaterial. Mechanical properties of biomaterials. Overuse syndromes, The impact of adverse working conditions and stress in the human body. Prevention of ergonomical inappropriate postures and rehabilitation of functional asymmetries.

**Teaching methods:**

- i) Suggestions and lectures by the teaching professor,
- ii) Presentation – Discussion of cases personally experienced by the students,
- iii) Lectures by specialized professionals (i.e. Representative from the Greek Union of Physiotherapists etc).

**Textbooks/reference material:**

In English:

- Karen Jakobs (2007). Ergonomics for Therapists, Mosby Elsevier,
- Denise Kenny Claiborne, Nancy J. Powell, and Kathleen Reynolds-Lynch (1999). Ergonomics and Cumulative Trauma Disorders: A Handbook for Occupational Therapists, Singular Publishing Group.

In Greek:

- 1.Π Πουλμέντης (2008) Βιολογική Μηχανική – Εργονομία.
- Τσακλής, Π (2005). Γενικές Αρχές Εργονομίας και Προληπτική Φυσικοθεραπεία. University Studio Press.
- Λάιος, Λ., Γιαννακούρου, Μ (2003). Σύγχρονη Εργονομία. Εκδόσεις Παπασωτηρίου.

**Name of subject:** INTELLIGENT SYSTEMS OF DECISION MAKING (THEORY)

**Module Code:** F5a

**Module Category:** Mandatory Elective Module

**Teaching Period:** 6<sup>th</sup> semester

**Aim of Course:** Students learn the techniques and applications of computational intelligence and the principles of using clinical decision support systems

**Content of Course:** Introduction to computational intelligence, its principles and its techniques, clinical decision making systems.

**Teaching methods:**

- i) Suggestions and lectures by the teaching professor,
- ii) Presentation – Discussion of cases personally experienced by the students,
- iii) Lectures by specialized professionals (i.e. Representative from the Greek Union of Physiotherapists etc).

**Textbooks/reference material:**In English:

- Berner E.S. (2008). Clinical Decision Support Systems. Springer, New York.
- Berner E.S., Ball M.J. (2009). Clinical Decision Support Systems: Theory and Practice. Springer, New York.
- Engelbrecht A.P. (2007). Computational Intelligence: An Introduction. Wiley, England.
- Greenes R.A. (2007). Clinical Decision Support: The Road Ahead. Elsevier.
- Konar A. (2005). Computational Intelligence: Principles, Techniques and Applications. Springer, Berlin.

In Greek:

- Χατζηλυγερούδης Ι., Κουτσογιάννης Κ. (2007). Ευφυής Προγραμματισμός. Εκδόσεις Πανεπιστημίου Πατρών, Πάτρα.
- Βλαχάβας Ι., Κεφάλας Π., Βασιλειάδης Ν., Κόκκορας Φ., Σακελλαρίου Η. (2006). Τεχνητή Νοημοσύνη. 3η Έκδοση. Εκδ. Γκιούρδας, Αθήνα.
- Russell S., Norvig P (2005). Τεχνητή Νοημοσύνη. Μια σύγχρονη προσέγγιση. (Μετάφραση Αγγλικής Έκδοσης) 2η Έκδοση. Εκδόσεις Κλειδάριθμος, Αθήνα.

**Name of subject: PROSTHETICS-ORTHOTICS (THEORY)****Module Code:** F5b**Module Category:** Mandatory Elective Module**Teaching Period:** 6<sup>th</sup> semester**Aim of Course:** Basic principles of rehabilitation by using orthotics.**Content of Course:** Introduction to different kinds of prosthetics and orthotics. Analysis of rehabilitation by their utility in paralysis, scoliosis, kyphosis, amputation.**Teaching methods:**

- iv) Suggestions and lectures by the teaching professor,
- v) Presentation – Discussion of cases personally experienced by the students,

vi) Lectures by specialized professionals (i.e. Representative from the Greek Union of Physiotherapists etc).

**Textbooks/reference material:**

In English:

- Lusardi and Nielsen (2000). Orthotics and Prosthetics in Rehabilitation . Butterworth-Heinemann. 2nd ed., Boston
- Ron Seymour (2002). Prosthetics and Orthotics: Lower Limb and Spine. Lippincott (Williams and Wilkins).
- Martha Freeman Somers (2002). Spinal Cord Injury: Functional Rehabilitation (3rd Edition)

In Greek:

- Χατζηπαύλου Α., Κοντάκης Γ. (2006) Ορθοπαιδική Τραυματιολογία Ι -Παθήσεις των Οστών και των Αρθρώσεων των Άκρων. Εκδόσεις Πασχαλίδη.
- Γρίβας Θ.Β.(1994). Σύγχρονες Εξελίξεις στην Έρευνα και Θεραπεία της Σκολίωσης. Εκδόσεις Πασχαλίδη

**Name of subject: ETHICS IN PHYSIOTHERAPY (THEORY)**

**Module Code:** F6

**Module Category:** Specific Background Module

**Teaching Period:** 6<sup>th</sup> semester

**Aim of Course:** Understand the importance and limits of ethics between health professionals, patients and their families. Learn how to manage ethical issues when conducting research in health issues.

**Content of Course:** Ethics in health professions, law and society, morality and religion, human rights. Professional rights in public and private sectors. Potentials for personal development in the physiotherapy profession. Recognition of unethical behaviors and protection from ‘unethical’ colleges.

**Teaching methods:**

- i) Suggestions and lectures by the teaching professor,
- ii) Presentation – Discussion of cases personally experienced by the students,
- iii) Lectures by specialized professionals (i.e. Representative from the Greek Union of Physiotherapists etc).

**Textbooks/reference material:**

In English:

- 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
- Jonsen A., Siegler M., Winslade W. (2006). Clinical Ethics: A Practical Approach to Ethical Decisions in Clinical Medicine. 6<sup>th</sup> ed. McGraw Hill Medical
- Judson K., Harrison C. (2009). Law & Ethics for Medical Careers. 5<sup>th</sup> ed. Career Education

In Greek:

- Κώδικας Δεοντολογίας του Πανελληνίου Συλλόγου Φυσικοθεραπευτών (*Greek Society of Physiotherapists' Code of Conduct*)
- Πουλής Ι. (2002) Δεοντολογία – Εισαγωγή στη Φυσικοθεραπεία. Σημειώσεις ΤΕΙ Λαμίας (*Ethics – Introduction to Physiotherapy*)

## 7<sup>th</sup> Semester Modules

**Name of subject:** CLINICAL NEUROLOGICAL PHYSIOTHERAPY II (THEORY & LAB)

**Module Code:** G1

**Module Category:** Specialty-based Module

**Teaching Period:** 7<sup>th</sup> semester

**Aim of Course:** Clinical management of neurological patients with movement and functional deficits. Application of assessment tools and planning of therapeutic interventions based on the clinical symptoms of the patient and the relative functional goals. Critical thinking for the selection of the optimal intervention based on the clinical picture of the patient.

**Content of Course:** Clinical importance of the reorganization of the cortex for the rehabilitation of neurological patients. Changes in the kinematic characteristics of functional activities, such as sit to stand, gait, balance in the neurological patient. Therapeutic interventions for spinal cord lesions, cerebellar lesions, upper motor neuron syndrome, extrapyramidal lesions (Parkinson's disease), traumatic brain injury. Analysis of the perceptual-cognitive deficits, somatosensory deficits and the way they affect the rehabilitation process. Role of clinical neuropsychology. Analysis of case studies.

**Teaching method:**

- i) Use of audiovisual means, such as video projections,
- ii) Student projects,
- iii) Demonstration of clinical examples.

**Textbooks/reference material:**In English:

- B. Draganski, A. May (2008) Training-included structural changes in the adult human brain Behavioural Brain Research 192, pp 137-142
- Madhu K. (2008) Brain development: anatomy, connectivity, adaptive plasticity and toxicity. Metabolism Clinical and Experimental 57 (Suppl 2), S2-S5
- Andrew J Butler, Steven L Wolf (2007) Putting the Brain on the Map: Use of Transcranial Magnetic Stimulation to Assess and Induce Cortical Plasticity of Upper-Extremity Movement. Physical Therapy, 719, Volume 87 Number 6
- Del Olmo FM, Arias P, Furio CM, Pozo MA, Cudeiro J (2006): Evaluation of the effect of training using auditory stimulation on rhythmic movement in Parkinsonian patients – a combined motor and [18F]-FDG PET study. Parkinsonism and Related Disorders, vol 12, pp155-164
- Cakit DB, Saracoglou M, Genc H, Erdem RH, Levent Inan (2007): The effects of incremental speed-dependent treadmill training on postural instability and fear of falling in Parkinson’s Disease. Clinical Rehabilitation, vol 21, pp 698-705
- Canning CG, Alison JA, Allen NE, Groeller H (1997): Parkinson’s disease; an investigation of exercise capacity respiratory function and gait, Archives Physical medicine Rehabilitation, vol 78, pp 233-241
- Cudo E, Leurgans S, Goetz GC (2004): Short-term and practice effects of metronome pacing in Parkinson’s disease patients with gait freezing while in the “on” state: randomized single blind evaluation. Parkinsonism and Related Disorders, vol 10, pp 504-510

In Greek:

- Levitt S. (2002) *Θεραπεία της Εγκεφαλικής Παράλυσης και της Κινητικής Καθυστέρησης*. (Μετάφραση Αγγλικής Έκδοσης), Επιστημονικές Εκδόσεις Παρισιάνου, Αθήνα (*Treatment of Cerebral Paralysis and Kinetic Delay*)

**Name of subject:** **SPORTS PHYSIOTHERAPY (THEORY & LAB)**

**Module Code:** G2

**Module Category:** Specialty-based Module

**Teaching Period:** 7<sup>th</sup> Semester

**Aim of Course:** Basic principles for the assessment and rehabilitation of sports injuries with emphasis on prevention through the rehabilitation of predisposing intrinsic (functional asymmetries/imbbalances) and extrinsic (environmental) factors. Differentiation of therapeutic approach in the rehabilitation of

sports injuries through the application of progressive rehabilitation programs. Planning of rehabilitation programs for sports injuries.

**Content of Course:** Characteristics of sports injuries (types, tissues involved, analysis of the inflammatory reaction). Etiology of sports injuries (prevalence, intrinsic & extrinsic factors). Physiotherapy assessment of the sports injuries (laboratory and clinical measurements of the muscular functional capacity of the athletes, recording of myodynamic asymmetries and imbalances). Prevention of sports injuries (equalization of functional imbalances, improvement of predisposing factors). Rehabilitation techniques for sports injuries (taping, proprioception and kineasthaesia training, stretching). Physical agents (cryotherapy, heat).

**Teaching method:**

- i) Lectures by the teaching professor,
- ii) Clinical cases discussions between student groups and the teaching professor,
- iii) Student projects (individually or in groups) and presentations using valid research resources,
- iv) Lectures by guest professors,
- v) Interactive sessions using communication and computer technologies.

**Textbooks/reference material:**

In English:

Norris Christopher M. (2004). Sports Injuries: Diagnosis and Management, Butterworth-Heinemann

- Wade R.M. (2009). Sports Injuries: A Unique Guide to Self-Diagnosis and Rehabilitation, Churchill Livingstone
- Perrin D.H. (1993). Isokinetic exercise and assessment, Human Kinetics.
- McAtee R.E. (1999). Facilitated stretching, Human Kinetics
- Ellenbecker TS, Davies GJ. (2001). Closed kinetic chain exercises: a comprehensive guide to multiple joint exercise, Human Kinetics.
- Radcliffe J, Farentinos J. (2007). High powered plyometrics.
- White M. (1995). Water exercise. Human Kinetics
- Donatelli R. (2007). Sports specific rehabilitation, Churchill Livingstone.
- Landry G, Bernhardt D. (2003). Essentials of primary care sports medicine, Human Kinetics.
- Corrigan B, Maitland GD (1994). Musculoskeletal and Sports Injuries, Elsevier.

In Greek:

- Πουλμέντης Π (2007). Φυσικοθεραπεία στον Αθλητισμό, Εκδόσεις Καπόπουλος (*Physiotherapy in Sports*)
- Prentice W.E. (2007). Τεχνικές Αποκατάστασης Αθλητικών Κακώσεων, Επιστημονικές Εκδόσεις Παρισιάνου (*Rehabilitation Techniques for Sports Injuries*)
- Δεληγιάννης Α. (1997). Ιατρική της άθλησης, University Studio Press (*Sports Medicine*)
- Αμπατζίδης Γ. (2003). Αθλητικές Κακώσεις, University Studio Press (*Sport Injuries*)
- Μπαλτόπουλος Π (2002). Αθλητιατρική I,II, Ιατρικές Εκδόσεις Π. Χ. Πασχαλίδης (*Sports Medicine I, II*)

**Name of subject:** FUNCTIONAL MANAGEMENT OF MOVEMENT DYSFUNCTIONS (THEORY)

**Module Code:** G3

**Module Category:** Specific Background Module

**Teaching Period:** 7<sup>th</sup> Semester

**Aim of Course:** Basic principles of functional rehabilitation of movement disorders with emphasis on functional rehabilitation of central nervous lesions. Basic principles of postoperative rehabilitation of diseases and lesions of the central nervous system.

**Content of Course:** Assessment and functional rehabilitation for a) diseases-lesions of the central nervous system, b) injuries of the peripheral nerves, c) tetraplegia-paraplegia, d) pre- and postoperative, e) chronic conditions of peripheral nerve damages, f) sports injuries.

**Teaching method:**

- i) Classic theoretical presentations,
- ii) Student project presentations,
- iii) Discussions with student groups assigned with an issue briefing.
- iv) Guest lecturing
- v) Interactive sessions using communication and computer technologies.

**Textbooks/reference material:**

In English:

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

In Greek:

- Κοτζαηλίας Δ. (2008) Φυσικοθεραπεία σε κακώσεις του μυοσκελετικού συστήματος, University Press.
- Hoppenfeld S (2000): Ορθοπεδική Νευρολογία. Αθήνα, Μαρία Γρ. Παρισιάνου.

- 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)

**Name of subject:** RESEARCH METHODS IN HEALTH SCIENCES (THEORY)

**Module Code:** G4

**Module Category:** Specific Background Module

**Teaching Period:** 7<sup>th</sup> semester

**Aim of Course:** This course covers basic principles of research methodology and scientific information queries. Students learn how to perform a literature review, how to test research protocols, statistical results. Emphasis is given to research methods applied to answer clinical questions in physiotherapy.

**Content of Course:** Basic principles of research methodology. The role of research, definitions, the scientific method and its prerequisites, research in the Internet. Research planning, sampling methods, types of research, basic and applied research. Measurement, measurement scales. Variables and statistical data. Descriptive research, correlations, parametric and non parametric research, multivariate analysis.

**Teaching method:**

- i) Classic theoretical presentations,
- ii) Student project presentations,
- iii) Discussions with student groups assigned with an issue briefing.

**Textbooks/reference material:**

In English:

- Colton T. (2004) Statistics in Medicine, Little, Brown and Company, Boston
- Hendry A. (1986) Sampling Bias in Physiotherapy Research, Physiotherapy 42, 16-18
- Keppel G. (1973) Design and Analysis, A researcher's Hand Book, Prentice – Hall, Toronto
- Lister M. (1977) Manuscripts: What you Always Wanted to Know, Physical Therapy 57, 1007-1012
- Lehmkuhl M. (1970) Let's Reduce the Understanding Gap, Experimental Design: What and Why. Physical Therapy 50, 1716-1720
- Michels B (1982) Evaluation and Research in Physical Therapy, Physical Therapy 62, 828-834
- Thomas J., Nelson J. (1996) Research Methods in Physical Activities, Human Kinetics, USA
- Hicks Carolyn (1998) Research for Physiotherapist, Churchill Livingstone



- French S. (1993) Practical Research, Butterworth – Heinmann
- Sackett, DL, Straus, SE, Richardson, WS, Rosenberg, W, Haynes, RB, (2000). Evidence-Based Medicine. How To Practice and Teach EBM. 2nd edition. Churchill Livingstone, NY,
- 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).

In Greek:

- Σαχίνη Α (1988) : Μεθοδολογία Έρευνας στα Επαγγέλματα Υγείας. Εκδόσεις Βήτα, Αθήνα (Research Methodology in Health Professions)
- McKenzie, BC (1998) : Ιατρική και Internet: Online Πηγές Πληροφόρησης και Ορολογία. Ιατρικές Εκδόσεις Σιώκης, Θεσσαλονίκη (Medicine and Internet: Online Information Sources and Terminology).

**Name of subject: PRESENTATIONS OF SPECIALS PHYSIOTHERAPY TOPICS (THEORY)**

**Module Code:** G5

**Module Category:** Specific Background Module

**Teaching Period:** 7<sup>th</sup> semester

**Aim of Course:** Basic techniques of research methodology with emphasis in the study of presentation of research results and in the planning and presentation of a research in conferences and scientific meetings

**Content of Course:** Presenting and analyzing the results of a research study. Writing articles and presentations of research studies. Examples of research studies in physiotherapy. Scientific conferences - meetings

**Teaching method:**

- i) Classic theoretical presentations,
- ii) Student project presentations,
- iii) Discussions with student groups assigned with an issue briefing.

**Textbooks/reference material:**

In English:

- Geoffrey R. Marczyk, David DeMatteo, and David Festinger, Essentials of Research Design and Methodology (Essentials of Behavioral Science) (Mar. 2, 2005).

- John W. Creswell. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (July 15, 2008).
- Larry B. Christensen Experimental Methodology, 10th Edition (July 1, 2006).
- Ranjit Kumar, Research Methodology: A Step-by-Step Guide for Beginners (July 15, 2005).
- Stephen B Hulley, Steven R Cummings, Warren S Browner, and Deborah G Grady Designing Clinical Research: An Epidemiologic Approach , (Nov. 1, 2006).

In Greek:

- Δημητρόπουλος Ε. ΕΙΣΑΓΩΓΗ ΣΤΗΝ ΜΕΘΟΔΟΛΟΓΙΑ ΤΗΣ ΕΠΙΣΤΗΜΟΝΙΚΗΣ ΕΡΕΥΝΑΣ, (εκδ. ΕΛΛΗΝ) ΑΘΗΝΑ 1994.
- Καρδάση Α. ΜΕΘΟΔΟΛΟΓΙΑ ΕΡΕΥΝΑΣ, (Εκδόσεις Zymel) ΑΘΗΝΑ 1991.
- Thomas, Nelson, ΜΕΘΟΔΟΙ ΕΡΕΥΝΑΣ ΣΤΗΝ ΦΥΣΙΚΗ ΔΡΑΣΤΗΡΙΟΤΗΤΑ ΕΚΔ. ΠΑΣΧΑΛΙΔΗ 2003 ΑΘΗΝΑ

## 8<sup>th</sup> Semester Modules

The last semester of the Physiotherapy Department does not involve any theoretical or laboratory subjects, but entails the *Practical Placement* of the students, in order to develop their practical and professional skills, as well as the writing of the *Thesis*, which has as purpose to stimulate critical thinking and develop their analytical and synthetic ability by elaborating this study.

**Name of subject:** THESIS

**Module Code:** H1

**Module Category:** Specialty-based Module

**Teaching Period:** 8<sup>th</sup> semester



**Aim of Course:** The Thesis is the final and most mature effort of the student in order to complete a scientifically-written documented text that deepens the knowledge in a specific field of Physical Therapy. By having acquired a certain level of knowledge and experiences from the course up to now, the student takes the final step beyond the “delivered knowledge” that is provided through the curriculum and looks into the current perception on an issue relative to the science he/she serves, as it is ‘expressed’ by research evidence.

Summarised, the undergraduate thesis gives the student the opportunity to:

- Formulate specific questions on subjects that interest him/her,

- ii) Get trained in looking for any scientific sources,
- iii) Evaluate and organize the thesis material,
- iv) Classify the findings of his/her review,
- v) Criticise and choose valid information,
- vi) Decode the clinical “message” that lies behind the findings,
- vii) Become an excellent connoisseur of the scientific field that he/she has processed,
- viii) Have discipline in the time schedule set for the elaboration of the thesis,
- ix) Develop personal evaluation criteria on the scientificity of projects and announcements,
- x) Present and possibly publish his/her thesis, always abiding by standards

**Thesis Assignment Procedure:** A tutor from the academic staff is allocated to each student in order to guide the student’s dissertation moves.

**Preconditions for application:** The students that can submit an application for Thesis assignment are the ones that are experiencing the 8<sup>th</sup> semester of their studies. An essential prerequisite for the assignment is that the student has been successfully examined in the 2/3 of the summary of the modules included in the curriculum. Students that are in an earlier semester can submit and elaborate a thesis, provided that they have been successfully examined in all the specialty courses of the curriculum.

**Thesis Elaboration Procedure:** During the time schedule for the Thesis, the student is obliged to meet/communicate with his/her supervisor, at least once every month, in order to be checked for his progress. If this does not happen, the supervising professor takes under serious consideration the student’s cooperation for the final assessment of the Thesis.

**Thesis Assessment Procedure:** The assessment of Theses is organised on request from the interested students. Students fill in a request form that must be signed by the supervising professor, in order to ensure the approval of the Thesis for examination. At the same time, the student has to deliver to the Department 3 copies of the Thesis (one for each member of the inquiry committee). In a short time period from submitting the request for examination, the person responsible for the Thesis sets the inquiry committee, which is consisted by the supervising professor and 2 more examiners (teachers of the Department). The members of the inquiry committee are approved by the TEI’s Board after suggestion from the Physiotherapy Department. The examination of the Theses is coordinated by the supervising professor and is scheduled on specific dates. The examination procedure includes the presentation of the Thesis from the student with Power Point projection, 10 minutes in duration. Then, questions follow from the committee. The presentation and examination procedure is open for every student and professor that is interested to attend.

The Thesis' grade from each examiner is the average of individual ratings in:

- i) Bibliography sufficiency,
- ii) Form & Structure,
- iii) Presentation & Support.
- iv) For research Theses, methodology is rated in addition.

A detailed Guidance for the Thesis writing and procedures has been developed and forwarded to all students eligible as well as being in the library (available for all students). It has also been uploaded to ecall electronic database (e-class) available to all students enrolled to Physiotherapy Department.



**Name of subject: PRACTICAL PLACEMENT**

**Module Code:** H1

**Module Category:** Specialty-based Module

**Teaching Period:** 8<sup>th</sup> semester

**Module Context:** The Practical Placement takes place after the 7<sup>th</sup> semester of studies and only if the student has been successfully examined in all specialty modules. The Practical Placement aims to bridge theory and practice, by helping the student to apply what has been learnt in the theoretical modules. Furthermore, the student learns to follow and behave according to hierarchy, as well as to abide by the ethical (moral) rules as stated by the Greek Society of Physical Therapists.

The student can choose up to 3 public or private hospitals, which cooperate with the TEI, in order of priority. After that, he/she has to wait for the results. Once the hiring from the hospital is completed, the TEI designates a Supervising academic, who is responsible for the student, consulting for his/her daily performance and makes a monthly report on his/her progress.

The student is obliged to fill in the Practical Placement Book as a diary and report his/her daily programme. Additionally, he/she must report weekly and monthly references on his/her progress in the Practice Book as well as the knowledge he/she has obtained through the Practical Placement at the end of it. In parallel with the Practical Placement Book, the student has to complete the Technical Report.

The Technical Report is a project that follows the same concept as the Thesis. It has to do with the detailed description of the hospital's services, the knowledge the student has gained through the whole experience of the Practical Placement. Also, any possible problems and insufficiencies of the hospital can be reported in the Technical Report, as well as provide recommendations for improvement.

The student must follow the moral rules and regulations of the hospital, fully cooperate with his/her coworkers and behave properly. If the student does not follow the ethical guidelines, this could result in immediate interruption of the Practical Placement. If the student considers that the Employment Provider does not meet with the standards the TEI requires, he/she can denounce the contract to the TEI and be immediately transferred to a different hospital of his/her preference.

The student has to submit the Practice Book, which is evaluated by the Supervising academic, as well as the Technical Report to the TEI and present it in public in a respective conference organised by the TEI. In this presentation, the student demonstrates the experiences he/she has acquired during the Practical Placement and the subject he/she has analysed in the Technical Report. The presence of the Supervising academic is obligatory, since the validation of the Practical Placement relies also on the evaluation of the student's presentation (where another supervisor on site is also 'looking' and evaluating the student). Finally, the Supervising academic writes the Supervisor's Practical Placement Report according to a respective model and the final approval of the Practical Placement is given by the Head of the Department. The ECTS credits awarded for successfully completing the Practical Placement are 20.

