



TECHNOLOGICAL EDUCATIONAL INSTITUTE OF PATRAS

COURSE CURRICULUM

DEPARTMENT OF PHYSIOTHERAPY

AIGIO

2003



Department of Physiotherapy

Administration

- Department Assembly
- Department Council
- Head of the Department

Head of the Department

Dr Elias Tsepis, Assistant Professor, Physiotherapist, BSc in Physical Education, MSc in Sports Medicine, PhD in Sports Physical Therapy.

Permanent Teaching Staff

- Dr Elias Tsepis, Assistant Professor, Physiotherapist, BSc in Physical Education, MSc in Sports Medicine, PhD in Sports Physical Therapy
- Dr Konstantinos Koutsogiannis, Assistant Professor Physicist, PhD in Medical Diagnostic Systems
- Dr Evdokia Billis, Lecturer Physiotherapist MMACP, MCSP, MSc (Manipulative Therapy), PhD in Musculoskeletal PT
- Dr Konstantinos Fousekis, Lecturer Physiotherapist, BSc in Physical Education, MSc & PhD in Sports Medicine

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The Department of Physiotherapy

The Department of Physiotherapy of the TEI of Patras, being part of the Branch Department of Aigion, which is situated in the city of Aigion has been established since 2003 (Greek law published in FEK 222/17-09-2003). It is one out of four Higher Educational Institutes (the others being T.E.I.¹ of Athens, Thessaloniki & Lamia) offering Physiotherapy degrees within Greece.

The study content of the Department covers the modules of the science of Physiotherapy, with a view to the prevention, improvement and rehabilitation of any kind of pathological condition, as well as traumatic injuries which cause disorders in the support, muscular, nervous, respiratory and cardiac systems.

Entry Requirements

The normal entry requirements for the Physiotherapy course comprise of the following:

- i) 12 years of education: 6 in primary school, 3 in high school (lower secondary) and 3 in lyceum (upper secondary)
- ii) Evaluation through Pan-Hellenic written exams in the end of 2nd and 3rd grade of lyceum, which define their entrance into one of four Tertiary Education Physiotherapy Schools, according to the individual score and order of School preference. The final number of students is defined from the Ministry of Education.

Mission of the Department

The mission of the Department is the promotion, development and transmission of knowledge to the technology and science of Physiotherapy, via appropriate

¹ T.E.I.s (Technological Educational Institutes) are recognised public institutes offering higher education within Greece.



Technological Educational Institute of Patras Greece Department of Physiotherapy

theoretical teaching, wider laboratory and practical placement 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 Physiotherapy:

- Follows the international advancements in the scientific, educational and professional fields.
- 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.
- Conducts applied research in the field of Physiotherapy.
- Helps the students to develop adequate abilities and skills to make them able and competitive in a national and international environment.
- Follows and developments and changes (educational, financial and social) in the study content nationally and internationally.
- Is always on the alert to accept, analyse and incorporate new points of view so as to ensure and improve the quality of study of the Department.

Description of the Graduates

Physiotherapy graduates are automatically accredited by the Greek State and are 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 Physiotherapy at T.E.I. of Patras are professionally referred to as “Physiotherapists” 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



Technological Educational Institute of Patras Greece
Department of 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 (Greek Law in FEK 222/17-09-2003). More specifically, the graduate of the Department is capable of proceeding with and executing physiotherapeutic treatment after the written diagnosis and instructions from the doctor. More explicitly he/she can:

- Rehabilitate the patient, using, after Physiotherapeutic Evaluation, the appropriate, most efficient and safest special means, methods and techniques, such as kinesiotherapy, special techniques in manual therapy, the increase and decrease of temperature, electric stimulation, Biofeedback, pain relief, the ergonomic training of the patient and the improvement of muscular operational ability.
- Evaluate the progress of the patient's condition and alter the patient's rehabilitation programme.
- Execute research programmes which promote the science of Physiotherapy.
- Plan and apply disorder prevention and rehabilitation programmes, which Physiotherapy is called on to handle, to individuals, groups and communities, schools and professional places.
- Apply the rules of ethics.
- Train and support the patient and the patient's family with a view to helping the patient to achieve functional independence.

The graduate Physiotherapists are entitled to work as:

- Executives of the State or of 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 clinic of Physiotherapy or at the patient's home.
- Open a private clinic of Physiotherapy under the provisions of law.



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

Laws of Professional Conduct

The professional rights of physiotherapists graduating from Physiotherapy 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 physiotherapy 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 physiotherapists within Greece. All registered members are also recognized from WCPT and EU-WCPT.

Framework of the Course

The duration of studies is 8 semesters, organised in 4 academic years. Each semester is 15 weeks long. During the course of the first 7 semesters, the studies include theoretical education, laboratory/clinical practice (clinically-based modules), seminars and practical exercises on real-life cases in Hospitals, Medical Institutions, Rehabilitation Centres etc. During the 8th semester, the final-year thesis (dissertation) and a 6-month practical elective placement take place.

Also, vacation periods occur during the academic year, including one week in Christmas, one week in Easter time and summer holidays which start from early July until 1st September when the 2nd examination period for the 2nd semester of the academic year begins.

The course is structured on the basis of the student's workload (WL) (750 hours per semester). As WL for every module, we define three times the amount of time for theoretical education and an equal amount of time for laboratory practice. 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 the modules for every semester is thirty (30) and is allocated to the modules in proportion to the WL. During the eighth semester, 20 TU are allocated to the Thesis and 10 TU to the Practical Placement.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

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 provided in a well-developed written on the field of study. And finally, the elective clinical placement (or Practical Placement), 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.

In order to obtain their degree, the students need to have attended successfully all the modules of general background, modules of specific background, modules of specialisation and 4 modules on the cognitive contents of administration, economy, legislation and humanitarian studies. Also, the elaboration of the final-year Thesis by the graduate of the Department involves the close examination and completion of a topic which is up-to-date and which concerns, clinically or theoretically, the expertise or the wider field of health which relates to Physiotherapy. Finally, the Practical Placement in the profession lasts six (6) calendar months. It is guided and evaluated and takes place in Hospitals, Rehabilitation Centres and other collaborating places relevant to Physiotherapy. In order to be awarded the Physiotherapy Degree, the students have to be successfully examined in all 40



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

modules, including Thesis and the Practical Placement, thus complete 240 credits (ECTS).

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 I”, “Anatomy II”, “Physiology”, “Pathology”, “Neurophysiology”, “Orthopaedics”, “Neurology”, “Surgery”, “First-Aid, Hugiene” and “Diagnostic Imaging” (10 courses).

Modules of Specific Background (SBM):

Correspond to the basic modules whose scientific field of knowledge lies within the basic context of Physiotherapy. These are: “Ethics – Introduction to Physiotherapy”, “Biomechanics – Ergonomics”, “Methods and Techniques in Neuromuscular Re-education”, “Respiratory Physiotherapy”, “Special Techniques in Manual Therapy”, “Exersice Physiology”, “Foreign Language – Terminology”, “Musculoskeletal Physiotherapy I”, “Physiotherapy in Neural Diseases II”, “Research Methods in Physioherapy” (10 courses)

Specialty-based Modules (SM):

Correspond to the physiotherapy-specific modules. These are: “Massage Techniques”, “Kinesiology I”, “Kinesiology II”, “Modalities – Electrotherapy I”, “Kinesiotherapy”, “Physical Education for Special Populations”, “Modalities – Electrotherapy II”, “Cardiovascular Physiotherapy”, “Physiotherapy in Neural Diseases I”, “Clinical Practice I”, “Musculoskeletal Physiotherapy II”, “Clinical Practice II”, “Assessment in Physiotherapy”, “Sports Physiotherapy”, “Clinical Practice III”, “Physiotherapy per Age Groups” (16 courses).

Field of Knowledge (FoK):

Including the modules of Administration, Economy and Legislation which are basic for the organization an administration of businesses, laboratories and services relevant to specialisation. There are also the objects of Humanitarian Studies which



Technological Educational Institute of Patras Greece Department of Physiotherapy

are: “Computer Science in Health”, “Health Psychology”, “Management – Advertising”, “Biostatistics” (4 courses).

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 non-permanent, assessed and contracted on a yearly basis by the permanent staff, the majority of whose are also physiotherapists and, to a lesser extent, other health professionals (doctors etc.).

Permanent teaching staff:

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

Periods of Assessment:

Assessment in theoretical parts takes place in the end of each semester and has 2 examination periods. In case somebody fails the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module again. Assessment in practical parts takes place on a daily basis with three more formal oral examination type assessments, which comprise of practical demonstration of techniques and methods by the students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester.



COURSE CURRICULUM

Module/Subject	Category	Hours/Week		Total	WL	ECTS
		Theory	Lab			
1st Semester						
Anatomy I	GBM	4	2	6	14	8
Computer Science in Health	FoK	2	-	2	6	3
Health Psychology	FoK	2	-	2	6	3
Massage Techniques	SM	2	2	4	8	5
Ethics - Introduction to Physiotherapy	SBM	2	-	2	6	3
Kinesiology I	SM	3	2	5	11	8
<i>Total</i>		<i>15</i>	<i>6</i>	<i>21</i>	<i>51</i>	<i>30</i>
2nd Semester						
Anatomy II	GBM	4	2	4	14	8
Physiology	GBM	4	2	6	14	8
Pathology	GBM	4	-	4	12	6
Neurophysiology	GBM	2	-	2	6	3
Kinesiology II	SM	2	2	4	8	5
<i>Total</i>		<i>16</i>	<i>6</i>	<i>22</i>	<i>54</i>	<i>30</i>
3rd Semester						
Orthopaedics	GBM	4	-	4	12	6
Neurology	GBM	4	-	4	12	6
Surgery	GBM	2	-	2	6	3
Biomechanics - Ergonomics	SBM	2	2	4	8	5
Physical Modalities - Electrotherapy I	SM	2	2	4	8	5
Kinesiotherapy	SM	2	2	4	8	5
<i>Total</i>		<i>16</i>	<i>6</i>	<i>22</i>	<i>54</i>	<i>30</i>
4th Semester						
Physical Education for Special Populations	SM	2	2	4	8	5
Methods and Techniques in Neuromuscular Re-education	SBM	2	2	4	8	5
Respiratory Physiotherapy	SBM	2	2	4	8	5
Special Techniques in Manual Therapy	SBM	2	2		8	5



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Exercise Physiology	SBM	3	-	3	9	5
Physical Modalities - Electrotherapy II	SM	2	2	4	8	5
<i>Total</i>		<i>13</i>	<i>10</i>	<i>23</i>	<i>49</i>	<i>30</i>
5th Semester						
Foreign Language - Terminology	SBM	2	-	2	6	3
Cardiovascular Physiotherapy	SM	2	2	4	8	5
Musculoskeletal Physiotherapy I	SBM	2	2	4	8	5
Physiotherapy in Neural Diseases I	SM	2	2	4	8	5
Management - Advertising	FoK	2	-	2	6	3
Clinical Practice I	SM	2	8	10	14	9
<i>Total</i>		<i>12</i>	<i>14</i>	<i>26</i>	<i>50</i>	<i>30</i>
6th Semester						
First-Aid, Hygiene	GBM	1	2	3	4	4
Diagnostic Imaging	GBM	2	-	2	6	3
Musculoskeletal Physiotherapy II	SM	2	2	4	8	5
Physiotherapy in Neural Diseases II	SBM	2	2	4	8	5
Biostatistics	FoK	2	-	2	6	3
Clinical Practice II	SM	2	12	14	18	10
<i>Total</i>		<i>11</i>	<i>18</i>	<i>29</i>	<i>50</i>	<i>30</i>
7th Semester						
Assessment in Physiotherapy	SM	2	2	4	8	5
Research Methods in Physiotherapy	SBM	2	2	4	8	5
Sports Physiotherapy	SM	2	2	4	8	5
Clinical Practice III	SM	2	12	14	18	10
Physiotherapy Specific to Age Groups	SM	2	2	4	8	5
<i>Total</i>		<i>10</i>	<i>20</i>	<i>30</i>	<i>50</i>	<i>30</i>
8th Semester						
Thesis (final year dissertation)	-	4	-	4	4	10
Practical Placement	-	-	-	-	-	20
<i>Total</i>		<i>4</i>		<i>4</i>	<i>4</i>	<i>30</i>



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

Quality Systems and Review Procedures

The Department is obliged to perform and present an Annual Self-Evaluation Report assessing its facilities, infrastructure, students, graduates, tutors and generally all of its functions and achievements each year. Every 4 years, all annual self-evaluation reports are synthesized in one document, the “Internal Evaluation” report, which additionally includes all the strategies that need to be implemented within the next 4 years and it is sent to the Ministry of Education; where a specialized committee for quality assurance in higher education (ΑΔΙΠ) will evaluate it. This finally leads to the “External Evaluation” of the Department, by a board of 5 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. Our department is recently established (2003) and in view of being new, the “External Evaluation” is still under schedule.



Outline of Modules

Module: Anatomy I (Theory)

Teaching period: 1st semester

Learning outcomes:

- i) Comprehension of the basic anatomical characteristics of the human body,
- ii) Comprehension of topographical – superficial anatomy,
- iii) Development of verbal presentation skills.

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.

Week by week schedule: The theoretical part of Anatomy I is summarised in 60 teaching hours, organised in 30 2-hour sessions (2 sessions per week), in which student attendance is essential.



Week	Unit
1	Introduction to Basic Anatomical Issues- Histology
2	Skull bones - Spinal bones
3	Upper limb bones I
4	Upper limb bones I
5	Lower limb bones II
6	Lower limb bones II
7	Shoulder girdle Muscles - Ligaments
8	Elbow/ Wrist Muscles - Ligaments
9	Hand Muscles - Ligaments
10	Cervical/ Thoracic Muscles - Ligaments of the spine Lumbar Muscles - Ligaments
11	Basin Muscles - Ligaments
12	Hip Muscles - Ligaments
13	Knee Muscles - Ligaments Ankle joint Muscles - Ligaments
14	Foot Muscles - Ligaments
15	Repetition

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*



Technological Educational Institute of Patras Greece
Department of Physiotherapy

(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*)

Assessment: Assessment of the theoretical part of Anatomy I takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 8 ECTS credits.

Module: Anatomy I (Lab)

Teaching period: 1st semester

Learning outcomes:

- i) Learning the anatomic structure of the human body,
- ii) Education on the macroscopic recognition of organ models, their morphology and their basic anatomic characteristics,
- iii) Connection between anatomic characteristics and physiological function of different structures,
- iv) Demonstrations with a skeleton specimen, a muscular model and various detailed specimens of all the human body articulations.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Teaching method:

- i) Theoretical presentations,
- ii) Student discussions,
- iii) Use of human body models.

Week by week schedule: The Anatomy I lab is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	Introduction - Tissues, Organs, Osteology
2	Bones, Joints, Shoulder Girdle Muscles
3	Arm/ Forearm Bones and Joints
4	Arm/ Forearm Muscles
5	Wrist/ Hand Bones, Joints and Muscles
6	Pelvis Bones, Joints and Muscles
7	Thigh Bones, Joints and Muscles
8	Shin Bones, Joints and Muscles
9	Tarsus - Foot Bones, Joints and Muscles
10	Spine
11	Thorax
12	Spinal and Thoracic Muscles
13	Skull Bones
14	Facial Bones
15	Skull and Tracheliac Muscles

Textbooks/reference material:

In English:

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

In Greek:

- Γύνης Π. (2002). *Εισαγωγή στην Ανατομία του Ανθρώπου*. University Studio press
(*Introduction to Human Anatomy*)



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

- 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*)

Assessment: Assessment of the laboratory part of Anatomy I takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally, with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 8 ECTS credits.

Module: Computer Science in Health

Teaching period: 1st semester

Learning outcomes: By the end of the teaching period the students should:

- Understand the basic principles of Biomedicine Technology,
- Understand the basic principles of Computer Science in Health and Telehealth,



Technological Educational Institute of Patras Greece
Department of Physiotherapy

iii) Become familiar with the latest developments in Biomedicine Technology by case studies in projects.

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).

Week by week schedule: Computer Science in Health is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Basic principles of Biomedicine Technology
2	Basic principles of Computer Usage
3	Management Information Systems
4	Health Information Systems (protocols, classification, coding, communication, telemedicine)
5	Internet
6	Artificial Intelligence and Medicine
7	Virtual Reality Systems
8	Medical Imaging Systems
9	Medical Technology Systems in Physiotherapy
10	Introduction to Security from Biomedical Technology Systems
11	Computer Usage
12	Windows and Internet Usage
13	MS Office Usage
14	MS Office Usage
15	Usage of Physiotherapy Information Systems



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 Melanie Sutton (Editor) (2008). Medical Informatics: Practical Guide for the Healthcare Professional

In Greek:

- Αθανασόπουλος Α, Αντωνακόπουλος 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 Διάυλος, Αθήνα (*Fundamental Principles of Databases*)
- Goldschlager L and Lister A, (1996). *Εισαγωγή στη Σύγχρονη Επιστήμη των Υπολογιστών*, Μετάφραση Χαλάτσης Κώστας, Επίτομος, Έκδοση Τρίτη, Εκδόσεις Διάυλος, Αθήνα (*Introduction to Modern Computer Science*)
- Tanenbaum S. A, (2000). *Δίκτυα Υπολογιστών*, Μετάφραση Στυλιανάκης Βασίλειος, Επίτομος, Έκδοση Τρίτη, Εκδόσεις Παπασωτηρίου, Αθήνα (*Computer Networks*)

Assessment: Assessment of Computer Science in Health takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. Students have to achieve a result 5 out of 10 or higher to consider the subject passed. The examination's duration is 2 hours. After passing the subject, the students are awarded with 3 ECTS credits.

Module: Health Psychology

Teaching period: 1st semester

Learning outcomes: The main goal of Health Psychology is to accustom students with the basic terms and conceptions of psychology and deviations from the normal.

Teaching method:

- i) Classic theoretical presentations,



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

- ii) Student projects,
- iii) Interactive sessions.

Week by week schedule: Health Psychology is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Science Psychology. Areas and Field of Knowledge
2	Clinical Psychology. Areas and Methodology
3	Psychopathology
4	Psychoanalysis
5	Clinical Structures. Disorders Classification
6	Neuroses
7	Psychoses
8	Forms and types of Psychotherapy
9	Health Psychology. Meaning and
10	Patient Psychology
11	Patient and Health Professionals
12	Health Professionals and Special Patient Classes
13	Health Professionals and Psychological Disorders
14-15	Repetition

Textbooks/reference material:

In Greek:

- Pertinelli J.L. *Κλινικές δομές*, Opportuna, Πάτρα 2007 (*Clinical Structures*)
- Νίκος Παπαχριστόπουλος, Επιμέλεια Κυριακή Σαμαρτζή. *Υγεία, Ασθένεια & Κοινωνικός Δεσμός*, Opportuna, Πάτρα 2009 (*Health, Disease & Social Bond*)

Assessment: Assessment of Health in Psychology takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions.



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

Students have to achieve a result 5 out of 10 or higher to consider the subject passed. The examination's duration is 2 hours. After passing the subject, the students are awarded with 3 ECTS credits.

Module: Massage Techniques (Theory)

Teaching period: 1st semester

Learning outcomes: By the end of the teaching sessions, the students should:

- i) Understand the principal massage techniques,
- ii) Understand the ground assessment and decision making of the proper kinesiotherapeutic approach.

Teaching method:

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

Week by week schedule: The theoretical part of Massaging Techniques is summarised in 30 teaching hours during the semester, organised in 15 2-hour sessions, in which student attendance is essential.



Week	Unit
1	Massage Preparation
2	General - Local Massage
3	Classic Massage I
4	Classic Massage II
5	Classic Massage III
6	Lymphatic System Massage
7	Massage on Trigger Points of Pain
8	Connective Tissue Massage
9	Special Cases Massage I
10	Special Cases Massage II
11	Shiatsu
12	Sports Massage
13	Decision Making in Massage Technique
14	Massage after surgery
15	Repetition

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). Deep Tissue Massage, North Atlantic Books

In Greek:

- Σακελλάρη Β- Γώγου Β (2004). *Τεχνικές θεραπευτικές μάλιαξης*, Εκδ. Παρισιάνου (*Therapeutic Massage Techniques*)
- Χριστάρα – Παπαδοπούλου Α (2004). *Τεχνικές θεραπευτικές μάλιαξης*, Εκδ. ΤΕΙ Θεσ/κης (*Therapeutic Massage Techniques*)



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- Σφετσιώρη Δ.Κ (2003). *Θεραπευτική μάλαξη*, DKS (*Therapeutic Massage*)
- Καραμανής Δημήτρης (2007). *Το ελληνικό αθλητικό μασάζ*, Εκδόσεις Ισόρροπον (*Greek Sports Massage*)

Assessment: Assessment of the theoretical part of Massaging Techniques takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 5 ECTS credits.

Module: Massage Techniques (Lab)

Teaching period: 1st semester

Learning outcomes: By the end of the semester, the students should be able to:

- Evaluate with confidence and safety the type of a musculoskeletal traumatism and identify the biological tissues possibly involved,
- Know the fundamental principles of rehabilitation for every musculoskeletal injury and be capable to choose documented and based on modern bibliography the appropriate massaging techniques,
- Design a massaging program that is safe and appropriate for each musculoskeletal injury and clinical condition according to recent research data,
- Ensure the necessary conditions for the massage (preparation of the room – lubricating agents – patient position).

Teaching method:

- Demonstration of the massaging techniques by the teaching professor,
- Practical exercise among student groups, supervised by the teacher.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week by week schedule: The lab part of Massaging Techniques is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	Patient Relaxation Positions - Physiotherapist Ergonomic Positions. Anatomy characteristics
2	Slide Manipulations on limb, hip and shoulder girdle
3	Slide Manipulations on trunk, face and neck area
4	Kneading and strokes. 1st intermediate student evaluation
5	Cupping, hits, shocks, pinching, vibrations, rubbing
6	Massage for lymphedema
7	Special Transversal Rubbing Massage
8	Trigger Points of Pain Massage. 2nd intermediate student evaluation
9	Reflexology. Connective tissue massage
10	Sport massage
11	Limb massage programs. Shoulder and hip girdle massage
12	Massage programs on the rachial trunk surface and neck
13	Massage programs on the anterior trunk surface and face
14-15	Repetition

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). 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*)
- Σφρετσιώρη Δ.Κ (2003). *Θεραπευτική μάλαξη, DKS* (*Therapeutic Massage*)
- Καραμανής Δημήτρης (2007). *Το ελληνικό αθλητικό μασάζ*, Εκδόσεις Ισόρροπον (*Greek Sports Massage*)

Assessment: Assessment of the lab part of Massaging Techniques takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.

Module: Ethics - Introduction to Physiotherapy

Teaching period: 1st semester

Learning outcomes: By the end of the semester, the students should be able to:

- i) Treat patients, escorts and coworkers within the Ethical Code of the profession,
- ii) Know their obligations and rights as physiotherapists,
- iii) Set realistic goals concerning their professional occupation.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

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).

Week by week schedule: Ethics - Introduction to Physiotherapy is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	What is physiotherapy? A physiotherapist's methods and means. Diseases and injuries treated with physiotherapy
2	Lessons, Programme and Goals of Physiotherapy Department
3	Potentials for Postgraduate studies in Greece and abroad. Seminars, Conferences, Meetings.
4	Legal and Institutional Framework in Physiotherapy. Greek Society of Physiotherapists - Code of Conduct. Hippocratic Oath
5	Our relationship with the patient. How to approach the patient. How to establish a relationship of trust
6	"Difficult" patients. How to obtain their cooperation. Is Paternalism the answer?
7	Finally, can we "cure" everyone? If not, how do we handle it?
8	Our relationship with colleagues, but also with doctors and other health professionals. Cooperation or Competition?
9	Alternative treatments. Chiropractics, Charlatans etc. What threatens the field. How can we protect it?
10	Where and how can I get assigned in the public sector?
11	What is required to start on a physiotherapy clinic?
12-15	Case presentations by students submitted to physiotherapy. The problem, diagnosis, referral to physiotherapy, means and techniques used by



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

colleagues, results. What satisfied them, what disappointed them, what would they avoid as future physiotherapists?

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*. 6th ed. McGraw Hill Medical
- Judson K., Harrison C. (2009). *Law & Ethics for Medical Careers*. 5th 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*)

Assessment: Assessment of Ethics – Introduction to Physiotherapy takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. Students have to achieve a result 5 out of 10 or higher to consider the subject passed. The examination's duration is 2 hours. After passing the subject, the students are awarded with 3 ECTS credits.

Module: Kinesiology I (Theory)

Teaching period: 1st semester

Learning outcomes: By the end of the teaching period, the students should:



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- i) Understand the basic analysis - description methods of the upper limb - cervical spine movement,
- ii) Understand the movements of the previously described joints, in which axes and levels they occur and actions of the corresponding muscle groups,
- iii) Develop verbal presentation skills on certain subject units.

Teaching method:

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

Week by week schedule: The theoretical part of Kinesiology I consists of 45 teaching hours, organised in 15 3-hour sessions, in which the student attendance is essential.

Week	Unit
1	Introduction - Basic Kinesiology Principles
2	Skeletal Construction- Joints- Movement levels and axes
3	Musculature I - Anatomic Characteristics
4	Musculature II - Function: Types of Contractions and Muscle Actions
5	Neuromuscular Characteristics/ Basis of Human Movement
6	Anatomic levers: Description - Classification
7	Upper limb- Shoulder girdle: Shoulder - Scapula Muscles
8	Upper limb: Shoulder/ Humeren Rate
9	Upper limb: Elbow - Forearm
10	Upper limb: Wrist
11	Upper limb: Hand
12	Spine: Introduction
13	Spine: Movement of the upper and lower cervical spine
14	Spine: Cervical Musculature
15	Movement Combination of Upper limb - Cervical Spine



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.
- 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)*
- Kapandji, 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)*



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Assessment: Assessment of the theoretical part of Kinesiology I takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 8 ECTS credits.

Module: Kinesiology I (Lab)

Teaching period: 1st semester

Learning outcomes: The students should be able to:

- i) Analyse the human movement,
- ii) Develop the skill to evaluate the muscle power, grope and recognise the muscles that function.

Teaching method:

- i) Verbal tests,
- ii) Presentation and application of lab exercises,
- iii) Evaluation on a daily basis.

Week by week schedule: Kinesiology I lab is summarized in 30 teaching hours, organised in 15 2-hour lab sessions, in which the student attendance is mandatory.

Week	Unit
1	Introduction to Kinesiology
2	Kinesiological Analysis Characteristics
3	Bones and Joints
4	Muscle function mechanics
5	Neuromuscular basis of Human Movement
6	Principles of Biomechanics. Levers



Technological Educational Institute of Patras Greece
Department of Physiotherapy

7	Shoulder and Shoulder girdle
8	Shoulder-Humeren Rate
9	Elbow and Radioulnar Joints
10	Wrist and Fingers
11	Muscular tests - Palpation
12	Structure and Function of the Spine
13	Cervical - Thoracic Area of the Spine
14	Lumbar Area of the Spine
15	Repetition

Textbooks/reference material:

In English:

- Soderberg G. Kinesiology: Application to Pathological Motion. Williams & Wilkins, Baltimore, 1993
- Kapandji IA. The Physiology of the Joints: I, II, III. Churchill Livingstone, 1994
- 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.
- Whittle M. (1991). Gait analysis: An introduction. Butterworth.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

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 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*)

Assessment: Assessment of the lab part of Kinesiology I takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 8 ECTS credits.



Module: Anatomy II (Theory)

Teaching period: 2nd semester

Learning outcomes:

- i) Study of the systems included in the curriculum, concentrating basically in the central and peripheral nervous system,
- ii) Comprehension of the circulatory, concentrating in the heart and main artery-veins anatomy,
- iii) Understanding the respiratory and tracheobronchial tree and the detailed analysis of the basic anatomic unit, the alveolus,
- iv) Understanding the anatomic position of the digestive, urinary and genital organs and of the glands.

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.

Week by week schedule: The theoretical part of Anatomy II is summarised in 60 teaching hours, organised in 30 2-hour sessions (2 sessions per week), in which student attendance is essential.

Week	Unit
1	Introduction to the Nervous System. Distinction of Central Nervous System, Peripheral Nervous System, Autonomic Nervous System. Neuron. Gray and White Matter
2	Central Nervous System. Brain. Anatomic Separation. Cerebral Hemispheres. Brain Lobes.
3	Stem. Parencephalis. Meninges and Cerebrospinal Fluid
4	Spinal Cord. Distinction of the Myelotome, Neurotome, Dermatome
5	Peripheral Nervous System
6	Autonomic Nervous System
7	Heart Anatomy. Systematic and Pulmonary Circulation



Technological Educational Institute of Patras Greece
Department of Physiotherapy

8	Main Arteries and Veins
9	Respiratory System. Nose, Paranasal Cavities. Larynx. Vocal Cords.
10	Tracheobronchial Tree. Alveolus. Alveolar-Capillary Membrane
11	Digestive System. Gastrointestinal Tract, Liver, Gall Bladder, Biliary System, Pancreas
12	Urinary. Kidneys, Ureters, Bladder
13	Endocrine Glands
14	Repetitional Session. Questions.
15	Exam Preparation.

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. Lipinncott.

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*)

Assessment: Assessment of the theoretical part of Anatomy II takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 8 ECTS credits.

Module: Anatomy II (Lab)

Teaching period: 2nd semester

Learning outcomes:

- i) Comprehension of the Central Nervous System and Peripheral Nervous System anatomy,
- ii) Awareness of the alveolus and the alveolar-capillary membrane in which the gas exchange occurs,
- iii) Knowledge of the anatomic parts of the heart and the distinction between systematic and pulmonary circulation,
- iv) Anatomic knowledge of digestive, genitourinary systems and the glands,

Teaching method:

- i) Power Point projections with interactive sessions with the students,
- ii) Demonstration of the internal organs and the brain with the use of specimens.

Week by week schedule: The Anatomy II lab is summarized in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week	Unit
1	Introduction to the Nervous System. Distinction of Central Nervous System, Peripheral Nervous System, Autonomic Nervous System. Neuron. White and Gray Matter
2	Central Nervous System. Brain. Anatomic Separation. Cerebral Hemispheres. Brain Lobes
3	Stem. Parencephalis. Meninges and Cerebrospinal Fluid
4	Spinal Cord. Distinction of the Myelotome, Neurotome, Dermotome. Peripheral Nervous System. Autonomic Nervous System. First evaluation
5	Heart Anatomy. Systematic and Pulmonary Circulation.
6	Main Arteries and Veins
7	Respiratory System. Nose, Paranasal Cavities. Larynx. Vocal Cords.
8	Tracheobronchial Tree. Alveolus. Alveolar-Capillary Membrane. Second evaluation
9	Digestive System. Gastrointestinal Tract
10	Liver, Gall Bladder, Biliary System, Pancreas
11	Urinary. Kidneys, Ureters, Bladder
12	Endocrine Glands. Third evaluation
13	Repetitional Session. Questions
14-15	Exam Preparation

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*)

Assessment: Assessment of the lab part of Anatomy II takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 8 ECTS credits.



Module: Physiology (Theory)

Teaching period: 2nd semester

Learning outcomes:

- i) Comprehension of the human body basic organ function mechanisms,
- ii) Comprehension of the interaction and cooperation-competition mechanisms of an organ group that serve a human function and constitute the system concept,
- iii) A basic exposure of deviating instances which also consist the exposition of the human pathology.

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.

Week by week schedule: The theoretical part of Physiology is summarised in 60 teaching hours, organised in 30 2-hour sessions (2 sessions per week), in which student attendance is essential.

Week	Unit
1	Introduction to Cellular Physiology (4 teaching hours)
2	Circulatory System I (4 teaching hours)
3	Circulatory System II (4 teaching hours)
4	Respiratory System (4 teaching hours)
5	Gastrointestinal System (4 teaching hours)
6	Urinary System (4 teaching hours)
7	Endocrine System (4 teaching hours)
8	Nervous System (4 teaching hours)
9	Musculoskeletal System (4 teaching hours)



Technological Educational Institute of Patras Greece
Department of Physiotherapy

10	Hematopoietic System (4 teaching hours)
11	Special Senses: Sight, Hearing, Smell, Taste, Touch (4 teaching hours)
12	Normal Parameter Rates of the Human Organism Function (4 teaching hours)
13	Optional: Repetition with special technical preparation for the exams
14- 15	Repetition

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). Wanders 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*)

Assessment: Assessment of the theoretical part of Physiology takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. Nevertheless, the students need to achieve 5 out of 10 for each of the parts to consider the subject



Technological Educational Institute of Patras Greece
Department of Physiotherapy

passed. The examination's duration is 2 hours. After passing the theoretical and laboratory part, the students are awarded with 8 ECTS credits.

Module: Physiology (Lab)

Teaching period: 2nd semester

Learning outcomes:

- i) Comprehension of the basic human body functions,
- ii) Comprehension of the evaluation rationale of the various systems proper function,
- iii) Practical approach displays of the various systems function.

Teaching method:

- i) Classic theoretical presentations,
- ii) Practices that are also applied by the students,
- iii) Discussions with student groups assigned with an issue briefing.

Week by week schedule: The Physiology lab is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	Introduction - General Physiology - The Cell
2	Blood - Defense - Immunization - Allergy
3	Blood Types - Blood Coagulation
4	Nerve and Muscle – Electromyograph (EMG)
5	Breathing - Lungs - Curves - Gas Exchange
6	Respiratory Mechanics - Pneumothorax - Hypoxia - CO ₂
7	Acid-based balance - Anatomy - Physiology - Kidney Function - Nephric Circulation
8	Kidney and NaCl - Water Balance - Mineral-corticoids - Renin - Angiotensin
9	Cardiovascular System



Technological Educational Institute of Patras Greece
Department of Physiotherapy

10	Electrocardiogram(ECG) - Circulatory Shock - Blood Pressure
11	Metabolism - Heat - Nutrition and Digestion
12	Hormonal Control-Steroids, Thyroid-Insulin-Gender Hormones- Menstrual Cycle
13	Central Nervous System – Cerebrospinal fluid - Hypothalamus - Parencephalis – Evoked potential of the brain
14	Senses – Evoked potentials
15	Repetition

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). Wanders 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*)

Assessment: Physiology lab assessment takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 8 ECTS credits.

Module: Pathology

Teaching period: 2nd semester

Learning outcomes:

- i) Comprehension of the basic mechanisms of the human pathological organ function,
- ii) Comprehension of the pathological process interaction mechanisms for the various human organs,
- iii) Comprehension of medicine's therapeutic interventions to these pathological processes targeting the return to "normal harmony".

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.

Week by week schedule: Pathology is summarised in 60 teaching hours, organised in 30 2-hour sessions (2 sessions per week), in which student attendance is essential.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week	Unit
1	Introduction to Pathology (4 teaching hours)
2	Circulatory System I (4 teaching hours)
3	Circulatory System II (4 teaching hours)
4	Respiratory System (4 teaching hours)
5	Gastrointestinal System (4 teaching hours)
6	Urinary System (4 teaching hours)
7	Endocrine System (4 teaching hours)
8	Nervous System (4 teaching hours)
9	Musculoskeletal System (4 teaching hours)
10	Hematopoietic System (4 teaching hours)
11	Special Senses (Sight, Hearing, Smell, Taste, Touch) (4 teaching hours)
12	Pathological Parameter Rates of the Human Organism Function (4 teaching hours)
13	Optional: Repetition with special technical preparation for the exams
14-15	Repetition

Textbooks/reference material:

In English:

- Andreoli T.E., Carpenter C., Griggs R.C, Benjamin I. (2007) Andreoli and Carpenter's Cecil Essentials of Medicine. 7th 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



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

- Jamison J.R. (2006). *Differential Diagnosis for Primary Care. A handbook for Health Care Practitioners*. 2nd 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*)

Assessment: Pathology's assessment takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. Students have to achieve a result 5 out of 10 or higher to consider the subject passed. The examination's duration is 2 hours. After passing the subject, the students are awarded with 6 ECTS credits.

Module: Neurophysiology

Teaching period: 2nd semester

Learning outcomes:

- i) Comprehension of Neurophysiology's basic concepts,



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- ii) The fundamental distinction of the Nervous System in executive kinetic mechanism, regulatory kinetic mechanism and sensorial part with the sensibilities it serves,
- iii) Comprehension of the higher cortical functions,
- iv) Development of verbal presentations skills on subject units.

Teaching method:

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

Week by week schedule: Neurophysiology is summarized in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	Introduction to the Nervous System. Neuron. Organisation of the NS in kinetic and sensorial part
2	Synapsis. Tranquility and Action Potentials. Neurotransmitters
3	Sensorial Receptors. Information Processing Neuronic Circuits
4	Pain, Headache and Thermal Sensations
5	Transmission of the above Sensations via Neural Paths
6 - 7	Spinal cord's organisation for the kinetic functions. Muscle Receptors, Muscle Spindles and Golgi's Tendinous organs and their part in Muscle Control. Muscular reflexes
8	Tendinous reflexes, Spinal reflexes, Brain-stem reflexes
9	Movement Control by the Kinetic Cortex and the Parencephalis
10	The main Ganglia
11	Cortex Cerebri and Brain Mental Functions
12	Brain Activation Systems. Limbic System
13	Autonomous Nervous System General Organisation
14	Exam preparation
15	Repetition



Textbooks/reference material:

In English:

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

Assessment: Neurophysiology's assessment takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. Students have to achieve a result 5 out of 10 or higher to consider the subject passed. The examination's duration is 2 hours. After passing the subject, the students are awarded with 3 ECTS credits.

Module: Kinesiology II (Theory)
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Teaching period: 2nd semester

Learning outcomes:

- i) Comprehension of the fundamental analysis-description methods of the lower limb and spinal thoracic-lumbar movement, as well as of the virtual standing position, the gait cycle description and the main disorders of all the above,



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- ii) Comprehension of the spinal joints and lower limbs movement, in which axes and levels they occur and actions of the corresponding muscle groups,
- iii) Verbal presentation skills development on subject units.

Teaching method:

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

Week by week schedule: The theoretical part of Kinesiology II is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Spine: Thoracic spine - Joints/ Muscles
2	Spine: Rib Cage - Mechanics of Breathing
3	Spine: Lumbar spine I - Anatomical Elements - Movements
4	Spine: Lumbar spine II - Muscle function
5	Basin: Basin Movements – Description of lumbopelvic rhythm
6	Lower limb: Hip
7	Lower limb: Knee I - Anatomical Elements - Movements
8	Lower limb: Knee II - Muscle function
9	Lower limb: Ankle
10	Lower limb: Foot
11	Lower limb - Basin - Spine: Gait Kinematic Characteristics
12	Lower limb - Basin - Spine: Muscle Actions on Gait
13	Lower limb - Basin - Spine: Description of Gait Pathological Patterns
14	Description of Lower limb's Closed and Open Chain Movements
15	Virtual Standing Position and its Main Disorders

Textbooks/reference material:

In English:

- Galley P.M. & Forster A.L (1987). Human Movement. An introductory text for Physiotherapy students. Churchill Livingstone



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

- 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, Lehmkühl LD (1996). Brunnstrom's Clinical Kinesiology. F.A. Davis Company, Philadelphia
- Whittle M. (1991). Gait analysis: An introduction. Butterworth

In Greek:

- Δούκας Ν. (1991). *Κινησιολογία. Ιατρικές Εκδόσεις Λίτσας (Kinesiology)*
- Σφετσιώρης Δ. (2003). *Κινησιολογία Εισαγωγή-Ανω 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 Lehmkühl. (2005). *Brunnstrom's Κλινική Κινησιολογία* Εκδ. Παρισιάνου Αθήνα (*Brunnstrom's Clinical Kinesiology*)

Assessment: Kinesiology II assessment of theory takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. Nevertheless, the students need



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

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 5 ECTS credits.

Module: Kinesiology II (Lab)

Teaching period: 2nd semester

Learning outcomes: Kinesiology II has as target to give students the ability to:

- i) Understand and analyse human movement,
- ii) Perceive the neuromuscular mechanisms that compose movement,
- iii) Determine the performed muscle work,
- iv) Know the musculoskeletal structure and function of the lower limb, the pelvis and the spine,
- v) Evaluate the muscle power and functional capacity of the individual,
- vi) Perceive and analyse the lower limb and spine movement and associate it with the upper limb one,
- vii) Analyse the individual joint movements or/and the movements performed in an open and closed chain movement environment,
- viii) Analyse gait, running and standing position from a kinetic and kinematic perspective,
- ix) Analyse pathological movement and recognise the musculoskeletal requirements when moving somebody in a pathological situation.

Teaching method:

- i) Student group practice for analysis and understanding of the human movement,
- ii) Use of audiovisual and physiotherapeutic means and methods.

Week by week schedule: The lab part of Kinesiology II is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
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Technological Educational Institute of Patras Greece
Department of Physiotherapy

1	Spine - Cervical Spine
2	Spine - Thorax & Breathing
3	Spine - Lumbar Spine
4	Pelvic Girdle
5	Lower limb - Hip
6	Lumbopelvic Rhythm
7	Lower limb - Knee I
8	Lower limb - Knee II
9	Lower limb - Ankle & Foot I
10	Lower limb - Ankle & Foot II
11	Gait Analysis I
12	Gait Analysis II
13	Gait Analysis III
14	Movement Analysis
15	Movement Analysis

Textbooks/reference material:

In English:

- Soderberg G. Kinesiology: Application to Pathological Motion. Williams & Wilkins, Baltimore, 1993
- Kapandji IA. The Physiology of the Joints: I, II, III. Churchill Livingstone 1994
- 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



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

- 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
- 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)*
- Καρπαντζι, Ι.Α.(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)*

Assessment: Kinesiology II lab assessment takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students (verbal tests, lab exercises presentation and application). Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.



Module: Orthopaedics

Teaching period: 3rd semester

Learning outcomes:

- i) Comprehension of the basic principles of orthopaedics and traumatology,
- ii) Comprehension of the most significant injuries of the musculoskeletal system such as fractures, strains, dislocations and subluxations, peripheral nerves injuries, ruptures, tendon transections etc and their treatment (conservative and surgical),
- iii) Comprehension of the orthopaedic diseases such as inflammatory bone and joint diseases, degenerative diseases of the joints (osteoarthritis), paralytic paramorphias and other diseases for every anatomical area with analytic presentation of their most common treatment (conservative and surgical),
- iv) Knowledge of the most common neoplastic diseases of the bones.

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.

Week by week schedule: Orthopaedics is summarised in 60 teaching hours, organised in 30 2-hour sessions (2 sessions per week), in which student attendance is essential.

Week	Unit
1	General part. Bones Anatomy. Types of Bones and Joints. Perfusion and Bone Neurosis. Bone Injuries: Fractures, General Fractures
2	Joint Injuries. Ligament Injuries. Soft Tissue Injuries
3	Clinical and Paraclinical Audit in Orthopaedics. Treatment Methods in Orthopaedics. Surgery Orthopaedics. Amputation. Prosthetics. Orthotics



Technological Educational Institute of Patras Greece
Department of Physiotherapy

4	Skeletal System
5	Infectious Diseases of the Bones and Joints
6	Inflammatory Diseases of the Bones and Joints
7	Osteochondritis. Degenerative Pathosis of the Bones and Joints. Neurogenic - Paralytic Paramorphias
8	Metabolic Diseases
9	Injuries and Pathosis of the Shoulder Girdle and Thorax
10	Injuries and Pathosis of the Upper limb: Brachial, Elbow, Forearm, Wrist bones, Metacarpal Phalanges
11	Injuries of the Pelvis and Acetabulum
12	Injuries and Pathosis of the Lower limb: Hip, Femur, Knee, Shin, Perone, Ankle, Foot
13	Injuries and Pathosis of the Spine
14-15	Repetition

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*)
- Happenfeld 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*)

Assessment: Orthopaedics' assessment takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. Students have to achieve a result 5 out of 10 or higher to consider the subject passed. The examination's duration is 2 hours. After passing the subject, the students are awarded with 6 ECTS credits.



Module: Neurology

Teaching period: 3rd semester

Learning outcomes:

- i) Comprehension of the basic methods to examine a patient with neurological pathosis,
- ii) The fundamental distinction of the Nervous System in executive kinetic mechanism, regulatory kinetic mechanism and sensorial part with the sensibilities it serves; the examination and discovery of pathology in the above,
- iii) Comprehension of the higher cortical functions of cognition, knowledge and speech and their disorders,
- iv) Verbal presentation skills development on subject units.

Teaching method:

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

Week by week schedule: Neurology is summarised in 60 teaching hours, organised in 30 2-hour sessions (2 sessions per week), in which student attendance is essential.

Week	Unit
1	Cranial Nerves. Examination Method. Function Disorders
2	The Executive Kinetic Mechanism. Anatomic and Physiologic Elements. Higher and Lower Kinetic Neuron Systems. The Extrapiramidal System
3	Examination of the Executive Kinetic Mechanism and its Function Disorders. Muscle Mass, Muscle Tone, Muscle Power Examination
4	Examination and Disorders of Reflexes. Search for Abnormal Motility and Automatic Muscle Activity. Examination of Standing and Gait
5	The Regulatory Kinetic Mechanism. Anatomic and Physiologic Elements. Spinal Regulatory Mechanism and Parencephalis. Examination and Function Disorders



Technological Educational Institute of Patras Greece
Department of Physiotherapy

6	The Various Types of Sensibility. Anatomic and Physiologic Elements
7	Autonomic Nervous System
8	Higher Cortical Functions. Apraxias. Agnosias.
9	Aphasias. Aphasiac Syndromes
10	Localization of Brain Injury
11	Localization of Spinal Cord Injury
12	Localization of Peripheral Nervous Systems Injury
13	Multiple Sclerosis and other Demyelinating Diseases.
14	Pathosis of Peripheral Nerves
15	Muscle Pathosis

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 Vectors 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*)

Assessment: Neurology's assessment takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. Students have to achieve a result 5 out of 10 or higher to consider the subject passed. The examination's duration is 2 hours. After passing the subject, the students are awarded with 6 ECTS credits.

Module: Surgery

Teaching period: 3rd semester

Learning outcomes: During the semester, the units that will be taught are:

- i) Approach of the surgical patient,
- ii) Preoperative assessment of the surgical patient,
- iii) Postoperative analgesia,
- iv) Circulatory shock,
- v) Cardiopulmonary Resuscitation (CPR),
- vi) Inflammation and surgical infections,
- vii) Burn Disease,
- viii) Dealing with trauma,
- ix) Multiple Organ Dysfunction Syndrome,
- x) Physiology and Pathology of healing,
- xi) Principles of surgical oncology,
- xii) Breast illnesses,
- xiii) Pain in surgical pathology.

Teaching method:

- i) Power Point projector presentations,



Technological Educational Institute of Patras Greece
Department of Physiotherapy

ii) Interactive sessions.

Week by week schedule: Surgery is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Approach of the surgical patient
2	Preoperative Assessment of the surgical patient
3	Postoperative analgesia
4	Circulatory shock
5	Cardiopulmonary Resuscitation (CPR)
6	Inflammation and surgical infections
7	Burn Disease
8	Dealing with trauma
9	Multiple Organ Dysfunction Syndrome
10	Physiology and Pathology of healing
11	Principles of surgical oncology
12	Breast diseases
13	Pain in surgical pathology
14	Repetition
15	Exams Preparation

Textbooks/reference material:

In English:

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

Assessment: Surgery's assessment takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. Students have to achieve a result 5 out of 10 or higher to consider the subject passed. The examination's duration is 2 hours. After passing the subject, the students are awarded with 3 ECTS credits.

Module: Biomechanics – Ergonomics (Theory)

Teaching period: 3rd semester

Learning outcomes: By the end of the semester, the students should be able to comprehend that:

- i) Human movement and balance are governed by principles that constitute a mix of mechanical and neurophysiological functions,
- ii) The mechanism of acute and chronic traumatism is explained with the knowledge that we have for biomaterials mechanics (collagen tissues, muscles, bones, articular cartilages)
- iii) It is fundamental for a physiotherapist during rehabilitation to take under consideration that the previously mentioned mechanic properties are affected by factors such as age, immobilisation, exercise and traumatism,



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- iv) Ergonomics defines the interaction of human abilities with the environmental characteristics and suggests rules for the safest and most effective welfare for any human.

Teaching method:

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

Week by week schedule: The theoretical part of Biomechanics – Ergonomics is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Introduction to Biomechanics: History, Basic Principles, Scientific Field Introduction to Ergonomics: Nature, Field of Application
2	Fundamental Principles of Mechanics - Natural Laws, Charges on the Human Body
3	Composition - Analysis of Forces in Human Moves - Levers
4	Muscle Torque - Load
5	Human Balance: Control Organs, Mechanical Factors that Affect Balance
6	Arthrokinematics: Rolling, Slipping, Turning
7	Biomechanical Properties of Collagen Tissues: Mechanical Endurance of Tendons, Ligaments - Mechanisms of Traumatism, Healing
8	Biomechanical Properties of Articular Cartilages: Mechanical Behavior when Charged, Mechanisms of Traumatism
9	Biomechanical Properties of Bones: Stress, Fracture, Porosis
10	Measuring Instruments in Biomechanics
11	Linkage of Biomechanics with Orthotics Manufacture
12	Fundamental Principles of Ergonomics - Contribution to Improvement of Life Quality and Effectiveness



Technological Educational Institute of Patras Greece
Department of Physiotherapy

13	Recording of the most Significant Ergonomic Risks and the most Common Musculoskeletal Disorders Associated with Wrong Posture
14	Analysis of Ergonomic Positions and Charges in order to Prevent and Rehabilitate Injuries
15	Repetition

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*)

Assessment: Assessment of the theoretical part of Biomechanics - Ergonomics takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 5 ECTS credits.

Module: Biomechanics – Ergonomics (Lab)

Teaching period: 3rd semester

Learning outcomes:

- i) Comprehension of the causes and knowledge of the size of changing of the musculoskeletal structures during normal activities and therapeutic exercises,



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- ii) Development of the ability to describe the physiological arthrokinematics and gait, as well as to identify pathological movement in order to organize a successful intervention,
- iii) Comprehension of the structural and anatomical special features of biomaterials and the effect on them from physiological and excessive charging, as well as from immobilisation,
- iv) Development of the ability to respond to biomaterials during rehabilitation on mechanical strains, with what rate and up to which point they restore their properties, in order to have a safe and effective physiotherapeutic intervention,
- v) Comprehension of the possibilities and limitations of the modern means of biomechanical analysis.

Teaching method:

- i) Presentation of each unit by the teaching professor,
- ii) Practical application of the laws of Physics on real moves using students as models,
- iii) Analysis and description of physiological moves and exercises and classification according to the charge on the different anatomical structures of the human body,
- iv) Comparison of physiological and pathological standards of movement,
- v) Use of the measurement instruments of the biomechanics laboratory facilities for basic applications,
- vi) Highlighting of the most important points of methodology of data collection and analysis,
- vii) Projects assignment with interpretation of real results.

Week by week schedule: The lab part of Biomechanics – Ergonomics is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week	Unit
1	Introduction to Biomechanics: History, Basic Principles, Scientific Field Introduction to Ergonomics: Nature, Field of Application
2	Fundamental Principles of Mechanics - Natural Laws, Charges on the Human Body
3	Composition - Analysis of Forces in Human Moves - Levers
4	Muscle Torque - Load
5	Human Balance: Control Organs, Mechanical Factors that Affect Balance
6	Arthrokinematics: Rolling, Slipping, Turning
7	Biomechanical Properties of Collagen Tissues: Mechanical Endurance of Tendons, Ligaments - Mechanisms of Traumatism, Healing
8	Biomechanical Properties of Articular Cartilages: Mechanical Behavior when Charged, Mechanisms of Traumatism
9	Biomechanical Properties of Bones: Stress, Fracture, Porosis
10	Measuring Instruments in Biomechanics
11	Linkage of Biomechanics with Orthotics Manufacture
12	Fundamental Principles of Ergonomics - Contribution to Improvement of Life Quality and Effectiveness
13	Recording of the most Significant Ergonomic Risks and the most Common Musculoskeletal Disorders Associated with Wrong Posture
14	Analysis of Ergonomic Positions and Charges in order to Prevent and Rehabilitate Injuries
15	Repetition

Textbooks/reference material:

In English:

- Enoka. R. M. (2002). Neuromechanics of Human Movement-3rd Edition.
Human Kinetics



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- 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 Lippincott
- 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*)



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

Assessment: Assessment of the lab part of Biomechanics - Ergonomics takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.

Module: Physical Modalities - Electrotherapy I (Theory)

Teaching period: 3rd semester

Learning outcomes:

- i) Comprehension of the basic physical rehabilitation and electrotherapy methods in various musculoskeletal diseases,
- ii) Comprehension of the evaluation and decision making rationale on the proper electrotherapeutic approach,
- iii) Skill development in writing treatment protocols.

Teaching method:

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

Week by week schedule: The theoretical part of the subject is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week	Unit
1	Introduction to Electrotherapy - Modalities I
2	Fundamental Principles of Electrophysiology
3	Warm Compresses
4	Whirlpool - Intermediate Evaluation
5	Paraffin Bath
6	Ultrasounds I
7	Electrotherapy Systems
8	UV Radiation, Infrared Radiation
9	Short-wave Diathermias
10	Microwave Diathermias
11	Laser I
12	Shock Wave, Cervical - Lumbar Traction
13	Magnetic Fields
14	Patient Safety and Hygiene
15	Employee Safety and Hygiene

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 (*Clinical Electrotherapy, 2 Volumes*)
- Φραγκοράπτης Ε. (2002). *Εφαρμοσμένη Ηλεκτροθεραπεία*. Εκδόσεις Σάλλο, Θεσ/νίκη (*Applied Electrotherapy*)

Assessment: Assessment of the theoretical part of modalities – Electrotherapy I takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 5 ECTS credits.

Module: Physical Modalities – Electrotherapy I (Lab)

Teaching period: 3rd semester

Learning outcomes: By the end of the sessions, the students should be able to:

- i) Distinguish modalities (diathermia, warm compresses, ultrasounds, laser etc),
- ii) Demonstrate the way and general principles of their function,
- iii) Report the fundamental protection principles for the patient and themselves,
- iv) Apply modalities to a person,
- v) Make the appropriate preparations and evaluate the results,
- vi) Choose the appropriate parameters of each appliance for their patients,
- vii) Identify each appliance's characteristics and distinguish their requirements, according to the manufacturer's suggestions.

Teaching method:

- i) Power point presentations,



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- ii) Use of appliances-accessories (ultrasounds, ultraviolet-infrared radiation, magnetic fields, traction, laser, shock wave etc) which are available for every student in the university facilities,
- iii) Use of students as models,
- iv) Means of contact,
- v) Suggestions of the effects on biological tissues.

Week by week schedule: The lab part of Modalities – Electrotherapy I is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	Introduction to Electrotherapy - modalities I
2	Warm Compresses
3	Warm Compresses
4	Whirlpools
5	Paraffin Bath
6	Ultrasounds
7	Ultrasounds
8	UV & Infrared Radiation
9	UV & Infrared Radiation
10	Short wave & Microwave Diathermias
11	Short wave & Microwave Diathermias
12	Laser
13	Shock Wave
14	Magnetic Fields
15	Cervical - Lumbar Traction

Textbooks/reference material:

In English:

- “Electrotherapy, Evidence-based practice”, Sheila Kitchen, Eleventh Edition



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- “The Laser Therapy Handbook”, Jan Tuner & Lars Hode, Prima Book Editions, 2004
- 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 (*Clinical Electrotherapy, 2 Volumes*)
- Φραγκοράπτης Ε. (2002). *Εφαρμοσμένη Ηλεκτροθεραπεία*. Εκδόσεις Σάλλο, Θεσ/νίκη (*Applied Electrotherapy*)

Assessment: Assessment of the lab part of Modalities – Electrotherapy I takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.



Module: Kinesiotherapy (Theory)

Teaching period: 3rd semester

Learning outcomes: By the end of the semester, the students should be able to:

- i) Evaluate with confidence and safety the type of musculoskeletal injury and identify the biological tissues possibly involved,
- ii) Know the fundamental rehabilitation principles for every musculoskeletal injury and choose, according to modern bibliography, the most appropriate documented kinesiotherapy technique,
- iii) Design a program of kinesiotherapy that is safe and appropriate for every musculoskeletal injury consistent with recent research data,
- iv) Ensure the necessary conditions in order to perform kinesiotherapy.

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.

Week by week schedule: The theoretical part of Kinesiotherapy is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Physiology of Muscular, Tendinous and Intraarticular Tissues
2	Physiology of Muscular, Tendinous and Intraarticular Tissues
3	Energetic and Passive Movement & Evaluation of Motion Range
4	Stretching
5	Muscle Functional Ability
6	Muscle Functional Ability



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

7	Plyometric Strengthening
8	General Principles of Kinesiotherapy
9	Resistance Exercise
10	Physiotherapy Assessment
11	Physiotherapy Assessment
12	Hydrotherapy
13	Open - Close Biokinetic Chain Exercises
14-15	Repetition

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*)



Technological Educational Institute of Patras Greece
Department of Physiotherapy

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

Assessment: Kinesiotherapy's theoretical assessment takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 5 ECTS credits.

Module: Kinesiotherapy (Lab)

Teaching period: 3rd semester

Learning outcomes:

- i) Development of student fluency in application of the basic kinesiotherapy methods in various musculoskeletal diseases,
- ii) Comprehension and application of the evaluation and decision making rationale on the best kinesiotherapeutic approach.

Teaching method:

- i) A short introduction to each individual lab unit,
- ii) Demonstration of the required rehabilitation techniques,
- iii) Application of the techniques among the students,
- iv) Discussion on the solution of each possible problem or difficulty.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week by week schedule: Kinesiotherapy lab is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	Passive Movement of the Upper limb
2	Passive Movement of the Lower limb
3	Range Track Evaluation <i>(Upper limb, Lower limb, Spine)</i>
4	Stretching 'A' <i>(Stretching Methods of Upper limb - Trunk)</i>
5	Stretching 'B' <i>(Stretching Methods of Lower limb)</i>
6	Progressive Strengthening A' <i>(Suspended - Supported - Assisted Strengthening)</i>
7	Progressive Strengthening B' <i>(Simple Energetic Strengthening)</i>
8	Progressive Strengthening C' <i>(Concentric Strengthening with Resistance)</i>
9	Progressive Strengthening D' <i>(Eccentric Strengthening)</i>
10	Progressive Strengthening E' <i>(Open - Close Biokinetic Chain Exercises)</i>
11	Hydrotherapy
12	Kinesiotherapeutic Rehabilitation Protocols A' <i>(Shoulder Girdle)</i>
13	Kinesiotherapeutic Rehabilitation Protocols B' <i>(Hand and Elbow)</i>
14	Kinesiotherapeutic Rehabilitation Protocols C' <i>(Hip and Knee Joints)</i>
15	Kinesiotherapeutic Rehabilitation Protocols D' <i>(Ankle Structure)</i>



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*)
- Κοτζαγλιάς Δ (2008). *Φυσικοθεραπεία σε κακώσεις του μυοσκελετικού συστήματος*, University Studio Press (*Physiotherapy in Injuries of the Musculoskeletal System*)

Assessment: Kinesiotherapy's lab assessment takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.

Module: Physical Education for Special Populations (Theory)

Teaching period: 4th semester

Learning outcomes: Comprehension and understanding of the fundamental principles that apply to the design and contents of exercise, addressed to special population groups and refer to prevention (wherever possible) and treatment (as much as possible) of physical deformities and functional restraint for people with:

- a) Disabilities and
- b) Chronic diseases.

Teaching method: The teaching method is consisted by brainstorming, theoretical presentations on each disease, as well as questions-answers. Specifically, subjects displayed are the reasoning of a disease, the physical and kinetic characteristics developed by the persons suffering from a disease. Also, the goals and benefits from exercise, as well as the means used are presented and the indications and contraindications of exercise are remarked.

Week by week schedule: Physical Education for Special Populations (theory) is summarised in 30 teaching hours, organised in 15 2-hour session, in which student attendance is essential.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week	Unit
1	Introduction to Exercise. Structure and Contents of Exercise
2	Exercise as a Means of Prevention for Morbid Conditions, Development of Neuromuscular Functional Ability and Rehabilitation
3	Physical Education and Disabled People
4	Mental Retardation
5	Down Syndrome or Trisomy 21
6	Cerebral Paralysis
7	Sight - Blindness
8	Hearing - Deafness
9	Kinetic Disorders
10	Spinal Problems
11	Osteoporosis
12	Senility
13	Cardiovascular Diseases
14	Diabetes Mellitus
15	Obesity and other Diseases

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. 5th 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. 3rd 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*)

Assessment: Assessment of the theoretical part of Physical Education for Special Populations takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 5 ECTS credits.

Module: Physical Education for Special Populations (Lab)

Teaching period: 4th semester

Learning outcomes: Creation and practical presentation of specialized exercise programs addressed to special population groups and refer to prevention and treatment of physical deformities and functional restraint for people with

- a) Disabilities and
- b) Chronic diseases.

Teaching method:

- i) Exercise presentations,
- ii) Proper execution and correction of the wrong positions and moves,



Technological Educational Institute of Patras Greece
Department of Physiotherapy

iii) Assign the students to create and execute exercise programs on specific diseases.

Week by week schedule: The lab is summarised in 30 teaching hours, organised in 15 2-hour session, in which student attendance is mandatory.

Week	Unit
1	* Building an Exercise Program Generally * Warming up, Main Program and Recovery * Contents of Exercise, Means and Exercise Program * Exercise Demonstration for Large Muscle Groups * Common Mistakes and Correction
2	* Building an Exercise Program Specialized * Warming up, Main Program and Recovery * Modifying an Exercise Program for Special Population Groups and Exercise in Various Environments (pool, outdoor, etc)
3	* Exercise for People with Mental Retardation and Down Syndrome * Means and Exercise Program, Indications and Contraindications of Exercise
4	* Exercise for People with Cerebral Paralysis and Blindness * Means and Exercise Program, Indications and Contraindications of Exercise
5	First Evaluation
6	* Exercise for People with Deafness and Kinetic Disorders * Means and Exercise Program, Indications and Contraindications of Exercise
7	* Exercise for People with Spinal Problems * Means and Exercise Program, Indications and Contraindications of Exercise
8	* Exercise for People with Osteoporosis * Means and Exercise Program, Indications and Contraindications of Exercise
9	* Exercise for the Elderly



Technological Educational Institute of Patras Greece
Department of Physiotherapy

	* Means and Exercise Program, Indications and Contraindications of Exercise
10	Second Evaluation
11	* Exercise for People with Cardiovascular Diseases * Means and Exercise Program, Indications and Contraindications of Exercise
12	* Exercise for People with Diabetes Mellitus * Means and Exercise Program, Indications and Contraindications of Exercise
13	* Exercise for People with Obesity * Means and Exercise Program, Indications and Contraindications of Exercise
14	Organisation of Rehabilitation Centres
15	Repetition

Textbooks/reference material:

In English:

- Aram D.M. Disorders of Hearing, Speech and Language in “Nelson Textbook of Pediatrics”. Philadelphia W.B. Saunders Co. 1987:95-101
- Winnick P.J. (1995). Adapted Physical Education and Sport. Human Kinetics
- 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. 5th 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. 3rd ed. Butterworth-Heinemann, Oxford



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

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*)

Assessment: Assessment of the lab part of Physical Education for Special Populations takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.

<p>Module: Methods and Techniques in Neuromuscular Re-education (Theory)</p>

Teaching period: 4th semester

Learning outcomes:

- Comprehension of the fundamental principles of neuromuscular re-education methods,
- Comprehension of the evaluation rationale and decision making of the proper method,



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

- iii) Comprehension and development of critical thinking in order to decide on the ideal method depending on the patient's clinical condition,
- iv) Learning to evaluate and design a rehabilitation program and apply the techniques and methods according to a specific problem,
- v) Learning to choose the appropriate therapeutic technique.

Teaching method:

- i) Theoretical presentations with the use of visual means,
- ii) Clinical examples presentations and discussions,
- iii) Project presentations by students and discussions with student groups assigned with an issue briefing.

Week by week schedule: The theoretical part of Methods and Techniques in Neuromuscular Re-education is summarised in 30 teaching hours, organised in 15 2-hour session, in which student attendance is essential.

Week	Unit
1	Introduction - Central Nervous System
2	Sensorial System (Dermatic and Muscular Proprioceptive Receptors)
3	Theoretical Development Frames for Techniques & Methods of Neuromuscular Reeducation- Development Models
4	Proprioceptive Neuromuscular Facilitation (PNF)
5	PNF Techniques
6	PNF Clinical Example and Rehabilitation
7	Bobath - Jonstone
8	Bobath Techniques
9	Bobath Clinical Example
10	Brunnstrom - Fundamental Principles
11	Brunnstrom Clinical Observations
12	Brunnstrom Rehabilitation Program for Hemiplegic Patient
13	Motor Control - Fundamental Principles
14	Motor Control Stage
15	Motor Control Clinical Example and Rehabilitation



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

Textbooks/reference material:

In English:

- Shumway – Cook&Woollacot (2007): Motor Control, 3rd edition. Published by Lippincot Williams-Wilkins
- Adler S.S, Beckers D, Buck M (2000): PNF in practice: An illustrated Guide. 3rd edition. Published by Springer
- Smith KL, Weiss LE, Lehmkuhl (1996): Brunnstrom’s Clinical Kinesiology. Publisher: F.A. Davis Company
- Woollacott M. and Shumway – Cook A. “Motor Control – Theory and Practical Application”, 2nd edition, Lippincott Williams & Wilkins 2001
- Stokes M. “Neurological Physiotherapy” Mosby International Limited 1998
- Knott M. and Voss D. “Neuromuscular Proprioceptive Facilitation”

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*)

Assessment: Assessment of the theoretical part of Methods and Techniques in Neuromuscular Re-education takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 5 ECTS credits.



**Module: Methods and Techniques in Neuromuscular
Re-education (Lab)**

Teaching period: 4th semester

Learning outcomes:

- i) Comprehension of the basic kinesiotherapeutic methods for neurological diseases,
- ii) Comprehension of the evaluation and choice rationale for the appropriate method of kinesiotherapeutic approach,
- iii) Skill development on the ideal use of the kinesiotherapeutic technique.

Teaching method: The teaching method includes presentation and practical exercise of the techniques, as well as projects implementation.

Week by week schedule: Methods and Techniques in Neuromuscular Reeducation lab is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	Theory and Theoretical Models of Motor Control
2	PNF Proprioceptive Neuromuscular Facilitation
3	PNF: Method Philosophy
4	PNF: Fundamental Principles
5	PNF: Patents of Motor Facilitation for the Upper limb
6	PNF: Patents of Motor Facilitation for the Lower limb
7	PNF: Patents of Motor Facilitation for the Trunk
8	PNF: Patents of Motor Facilitation for the Upper Trunk with Activity from the Upper limbs Chopping - Lifting
9	PNF: Patents of Motor Facilitation for the Lower Trunk with Activity from the Lower limbs
10	PNF: Techniques to Promote Functional Movement
11	PNF: Activities on Mattresses
12	PNF: Rolling



Technological Educational Institute of Patras Greece
Department of Physiotherapy

13	PNF: Prone Motor Development
14	PNF: Supine Motor Development
15	Repetition

Textbooks/reference material:

In English:

- Woollacott M. and Shumway – Cook A. “Motor Control – Theory and Practical Application”, 2nd edition, Lippincott Williams & Wilkins 2001
- Stokes M. “Neurological Physiotherapy” Mosby International Limited 1998
- Knott M. and Voss D. “Neuromuscular Proprioceptive Facilitation”
- S.S. Adler, D. Beckers, M. Buck “PNF in practice. An illustrated guide” Springer – Verlag Berlin, Heidelberg 1993
- Smith KL, Weiss LE, Lehmkuhl (1996): Brunnstrom’s Clinical Kinesiology. Publisher: F.A. Davis Company
- Shumway – Cook&Woollacot (2007): Motor Control, 3rd edition. Published by Lippincot Williams-Wilkins

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*)

Assessment: Assessment of the lab part of Methods and Techniques in Neuromuscular Re-education takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of



Technological Educational Institute of Patras Greece
Department of Physiotherapy

the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.

Module: Respiratory Physiotherapy (Theory)

Teaching period: 4th semester

Learning outcomes: The main purpose of this subject is to teach the physiology and pathophysiology of the respiratory system. Also, emphasis is given to:

- a) Description of the physiotherapeutic techniques for the treatment of the most usual pneumonopathies and
- b) The physiotherapeutic treatment for patients in Intensive Care Unit (ICU).

Teaching method: The teaching method includes classic theoretical presentations.

Week by week schedule: The theoretical part of Respiratory Physiotherapy is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Respiratory System Anatomy. Introduction to Respiratory Physiotherapy
2	Inspiratory - Expiratory Muscles. Breathing Mechanics. Functional Evaluation of the Lungs (Capacity - Volume)
3	Breathing Physiology. Pulmonary - Alveolar Ventilation
4	Gas Diffusion. Transfer of the Blood Gases to the Tissues. Acid - Base Balance
5	Blood Gases and Disorders of the Acid - Base Balance. Ventilation - Perfusion Disorders
6	Neural Control of Breathing. Defensive Mechanisms of the Respiratory System
7	Evaluation - Examination of the Respiratory System. Laboratory - Functional Tests



Technological Educational Institute of Patras Greece
Department of Physiotherapy

8	Obstructive Disorders: Chronic Bronchitis, Emphysema, Asthma. Chronic Obstructive Pneumonopathy. Bronchiectasia. Cystic Fibrosis
9	Restrictive Disorders: Diffuse Interstitial Pulmonary Fibrosis. Diseases of the Pleura
10	Respiratory Insufficiency. Respiratory Difficulty Syndrome of the Adults
11	Pulmonary Edema
12	Controlled Breathing Training. Airways Cleaning Techniques. Respiratory Muscle Training
13	Ways to Improve Respiratory Physiotherapy. Positioning - Mobility
14	Immediate Treatment of the Patient. Oxygen Therapy. Humidifying of the Airways
15	Mechanical Ventilation. Breathing Practice. Intensive Care Unit (ICU)

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



Technological Educational Institute of Patras Greece
Department of Physiotherapy

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*)
- Chapman S., Robinson G., Stradling J., West S. (2007). *Oxford Εγχειρίδιο Πνευμονολογίας* (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Πασχαλίδης, Αθήνα (*Oxford Manual of Pneumology*)

Assessment: Assessment of the theoretical part of Respiratory Physiotherapy takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. Nevertheless, the students need to achieve 5 out of 10 for each of the parts to consider the subject



Technological Educational Institute of Patras Greece
Department of Physiotherapy

passed. The examination's duration is 2 hours. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.

Module: Respiratory Physiotherapy (Lab)

Teaching period: 4th semester

Learning outcomes: This subject lab's main purpose is to teach the techniques of respiratory physiotherapy.

Teaching method:

- i) Demonstration and explanation of the special physiotherapeutic techniques and
- ii) Practical exercise by the students.

Week by week schedule: Respiratory Physiotherapy Lab is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	Introduction to Respiratory Physiotherapy, Evaluation of the Respiratory Patient (Condition Evaluation Criteria)
2	Muscle Relaxation (Massage, Relaxation Positions and Exercises to Relax a Respiratory Patient)
3	Synchronism and Control of the Breathing Movements Rate (Breathing Reeducation)
4	Cleaning the Bronchi from Secretions (Bronchial Drainage). Exhalation and Cough Exercise, Assisted Expectoration and Drainage Manipulations
5	Pulmonary Drainage with elevation of the Right Lung
6	Pulmonary Drainage with elevation of the Left Lung. Drainage of the Trachea
7	Respiratory Muscles Exercise I. Diaphragm and Progressive Strengthening Program
8	Respiratory Muscles Exercise II. Exercise of the Upper and Lower Thorax Muscles



Technological Educational Institute of Patras Greece
Department of Physiotherapy

9	Respiratory Muscles Exercise III. Exercise of the Lower Thorax Muscles
10	Prevention and Correction of the Wrong Trunk Positions which Obstruct the Proper Breathing Function
11	Preoperative and Postoperative Physiotherapy for Thorax and Upper Abdomen Operations
12	Physiotherapy for Chronic Obstructive Pulmonary Ventilation Disorder Syndromes
13	Physiotherapy for Chronic Restrictive Pulmonary Ventilation Disorder Syndromes. Pleuritic Fluid Collection, Pneumothorax, Kyphoscoliosis - Ankylosing Spondylarthritis, Obesity, Neuromuscular Diseases, Spine and Spinal Cord Injuries
14	Respiratory Physiotherapy for Special Patient Groups (i.e. Children with Cystic Fibrosis)
15	Respiratory Physiotherapy at Intensive Care Unit. Patient Positions in ICU

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



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- 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 (*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*)
- Chapman S., Robinson G., Stradling J., West S. (2007). *Oxford Εγχειρίδιο Πνευμονολογίας* (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Πασχαλίδης, Αθήνα (*Oxford Manual of Pneumology*)

Assessment: Laboratory assessment of Respiratory Physiotherapy takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate



Technological Educational Institute of Patras Greece
Department of Physiotherapy

the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.

Module: Special Techniques in Manual Therapy (Theory)

Teaching period: 4th semester

Learning outcomes:

- i) Introduction to the evaluation mainly of the arthric system, but also of the nervous system, using the fundamental principles of passive mobilisation,
- ii) The students are given the possibility to evaluate musculoskeletal joints with mobilisation techniques,
- iii) The students are also given the possibility to choose and apply the most appropriate mobilisation technique as a treatment, according to each specific dysfunction.

Teaching method:

- i) Suggestions and lectures from the teaching professor,
- ii) Clinical case study discussions.

Week by week schedule: The theoretical part of Special Techniques in Manual Therapy is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	General Introduction to the Subject
2	Introduction to Special Techniques in Manual Therapy I * Introduction to the Concept of Manual Therapy Techniques * Introduction to Manual Therapy on the Joints



Technological Educational Institute of Patras Greece
Department of Physiotherapy

	<ul style="list-style-type: none"> * Analysis of the most Fundamental Manual Therapy Techniques of the Joints (Passive Physiological Movements, Passive Accessory/Joint play Movements, Combined Mobilisation with Movement) * Repetition on the Basic Characteristics of the Diarthrosis * Repetition on the Behavior of the Biological Materials * Principles of Kinematics. Osteokinematics * Principles of Kinematics. Arthrokinematics (Joint Movements, Sliding, Rolling, Rotating, Traction, Compression. Close/loose-packed joint positions)
3	<p>Introduction to Special Techniques in Manual Therapy II</p> <ul style="list-style-type: none"> * Arthric Dysfunction * Effect of Movement and Immobility on Arthric/Periarthric Tissues * Indications for Mobilisation & Arthric Mobilisation Application * Parameters of Arthric Mobilisation Techniques (Direction of the Applied Force, Way and Point to Apply the Force, Rhythm and Graduations of Mobilisation, Joint Position, Patient Position, Therapist's Position, Speed-Duration-Frequency of Manual Therapy Application) * Contraindications for Mobilisation * Introduction to Movement Diagrams
4	<p>Evaluation Principles for the Musculoskeletal System</p> <ul style="list-style-type: none"> * Subjective Evaluation * Objective Evaluation * "Active" Control of the Arthric System * Control of the Joints with Passive Manual Therapy Techniques * Evaluation of the Intra-articular Mobilisation Quality * Evaluation Account * Therapy Organisation
5	<p>Therapy for the Musculoskeletal System</p> <ul style="list-style-type: none"> * Therapeutic Action Mechanisms of Manual Therapy Techniques * Therapy Selection according to the Overall Evaluation Findings * Use of Movement Diagrams in order to choose the Appropriate Therapy * Therapy Progressiveness
6	<p>Upper limb Mobilisation I</p>



Technological Educational Institute of Patras Greece
Department of Physiotherapy

	<ul style="list-style-type: none">* Shoulder Girdle Joints. Glenohumeral, Scapulothoracic, Acromioclavicular & Sternoclavicular Joint* Glenohumeral Joint Mobilisation* Subsidiary Mobilisation of Sternoclavicular & Acromioclavicular Joint* Physiological Mobilisation of Scapulothoracic Joint* Elbow Joints: Humeroulnar, Humeroradial & Superior Radioulnar Joint* Elbow Joint Mobilisation (Humeroulnar, Humeroradial & Superior Radioulnar Joint)* Clinical Incidents Discussion
7	<p>Upper limb Mobilisation II</p> <ul style="list-style-type: none">* Wrist Joint. Hand Joints: Carpometacarpal (CMC) of the Thumb, Metacarpophalangeal (MCP), Mesophalangeal Joints* Wrist & Hand Joint Mobilisation* Clinical Incidents Discussion
8	<p>Lower limb Mobilisation I</p> <ul style="list-style-type: none">* Hip Joint* Hip Mobilisation* Knee Joints: Tibiofemoral & Patellofemoral Joint* Tibiofemoral & Patellofemoral Joint Mobilisation* Clinical Incidents Discussion
9	<p>Lower limb Mobilisation II</p> <ul style="list-style-type: none">* Ankle Joint. Foot Joints: Subtalar, Midtarsal, Tarsometatarsal, Metatarsophalangeal & Interphalangeal Joints* Ankle & Foot Joints Mobilisation* Clinical Incidents Discussion
10	<p>Spine</p> <ul style="list-style-type: none">* Cervical, Thoracic & Lumbar Spine* Reflected Pain* Evaluation & Therapy of the Spine with Special Techniques in Manual Therapy* Clinical Incidents Discussion
11	<p>Clinical Incidents Discussion</p>



Technological Educational Institute of Patras Greece
Department of Physiotherapy

12	Types & Philosophies of Techniques in Manual Therapy
13	Neurological Tissue Evaluation * Fundamental Principles of Nervous Tissue Movement * Pathophysiology & Pathodynamics of Nervous Tissue * Basic Neurodynamic Tests for Upper and Lower Ends * Evaluation & Therapy via Nervous Tissue Mobilisation * Clinical Incidents Discussion
14-15	Repetition

Textbooks/reference material:

In English:

- Boyling J.D., Palastanga N. (1994). Grieve's Modern Manual Therapy. 2nd 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. 5th ed. F. A. Davis Company, Philadelphia
- Maitland et al. (2001). Maitland's Vertebral Manipulation. 6th ed. Butterworth-Heinemann, Oxford
- Maitland G.D. (1991). Peripheral Manipulation. 3rd Ed., Butterworth – Heinmann, 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. 3rd Ed. New Zealand.



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

- 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*)

Assessment: The evaluation of the students is performed by:

- a) Practice acts: Practice act is conducted with practice/project either personal or in teams (during sessions), and in collaboration with the teaching professor. Bibliographic material will be provided either from the teaching professor for every unit or from the library
- b) Written exams at the end of the semester. In case somebody fails the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module again. The examination's duration is 2 hours. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.

Module: Special Techniques in Manual Therapy (Lab)

Teaching period: 4th semester

Learning outcomes:



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- i) Introduction to the evaluation mainly of the arthric system, but also of the nervous system, using the fundamental principles of passive mobilisation,
- ii) The students are given the possibility to evaluate musculoskeletal joints with mobilisation techniques,
- iii) The students are also given the possibility to choose and apply the most appropriate mobilisation technique as a treatment, according to each specific dysfunction.

Teaching method: The lab part of the subject is conducted with student groups' practical exercise - recreation on the mobilisation techniques.

Week by week schedule: The lab part of Special Techniques in Manual Therapy is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	Introduction to Special Techniques in Manual Therapy I * Introduction to Joint Mobilisation * Arthric Mobilisation * Concave - Convex Law * Passive Arthric Mobilisation: Arthric Physiological Passive Movements, Arthric Subsidiary (Joint Play) Movements. Application on Glenohumeral Joint * Differentiation of the Soft Tissue Resistance from the Intraarticular Resistance
2	Introduction to Special Techniques in Manual Therapy II * Illustration of the Mobilisation Parameters * Application of the rest Mobilisation Parameters * Examples and Applications of specific Subsidiary and Physiological Mobilisations on Glenohumeral Joint * End-feel Evaluation. Differential Diagnostics
3	Therapy Application via Mobilisation



Technological Educational Institute of Patras Greece
Department of Physiotherapy

	<ul style="list-style-type: none"> * Application of the Mobilisation Parameters for 2 Fundamental Therapeutic Targets: i) Reduce Pain and ii) Reduce Rigidity * Application of Mobilisation Diagrams <p><i>1st Intermediate Evaluation (Verbal exam)</i></p>
4	<p>Shoulder Girdle Mobilisation</p> <ul style="list-style-type: none"> * Glenohumeral Joint Evaluation * Glenohumeral Joint Therapy * Clinical Examples of Therapy & Practice * Evaluation/Therapy of Acromioclavicular & Sternoclavicular Joint
5	<p>Elbow & Wrist Joint Mobilisation</p> <ul style="list-style-type: none"> * Elbow Evaluation: Superior Radioulnar, Humeroulnar & Humeroradial Joint * End-feel Evaluation. Differential Diagnostics * Wrist Evaluation * Clinical Examples & Practice
6	<p>Hand Mobilisation</p> <ul style="list-style-type: none"> * Joints: Metacarpophalangeal, Interphalangeal, Joints between metacarpal bones * Practice <p><i>2nd Intermediate Evaluation (Verbal Exam)</i></p>
7	<p>Hip Mobilisation</p> <ul style="list-style-type: none"> * Hip Evaluation * End-feel Evaluation. Differential Diagnostics * Hip Therapy * Clinical Examples & Practice
8	<p>Knee & Ankle Mobilisation</p> <ul style="list-style-type: none"> * Knee Evaluation: Tibiofemoral & Patellofemoral Joint * Tibiofemoral & Patellofemoral Joint Therapy * Practice/Clinical Examples/Application * Ankle Evaluation
9	<p>Foot Mobilisation</p> <ul style="list-style-type: none"> * Joints: Subtalar, Tarsometatarsal, Metatarsophalangeal, Mesophalangeal



Technological Educational Institute of Patras Greece
Department of Physiotherapy

	* End-feel Evaluation. Practice <i>3rd Intermediate Evaluation (Verbal Exam)</i>
10	Spine Palpation
11	Thoracic & Lumbar Spine Mobilisation * Motility Evaluation of the Thoracic & Lumbar Spine * Arthric Control. Techniques Examples. End-feel Evaluation * Clinical Examples & Practice
12	Cervical Spine Mobilisation * Motility Evaluation of the Cervical Spine * Arthric Control. Techniques Examples. End-feel Evaluation * Clinical Examples & Practice <i>4th Intermediate Evaluation (Verbal Exam)</i>
13	Nervous Tissue Mobilisation * Nerves Palpation * Neurodynamic Tests Application * Clinical Examples of Therapy & Practice
14-15	Repetition

Textbooks/reference material:

In English:

- Boyling J.D., Palastanga N. (1994). Grieve's Modern Manual Therapy. 2nd 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., Vallowitz E. (1999). Manual Mobilisation of the joints. The extremities. Olaf Norlis Bokhandel, Oslo
- Kisner C., Colby L.A. (2007). Therapeutic Exercise. Foundations and Techniques. 5th ed. F. A. Davis Company, Philadelphia



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

- Maitland et al. (2001). Maitland's Vertebral Manipulation. 6th ed. Butterworth-Heinmann, Oxford
- Maitland G.D. (1991). Peripheral Manipulation. 3rd Ed., Butterworth – Heinmann, 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. 3rd 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*)

Assessment: Student evaluation consists of verbal examination on specific subjects known to the students, taught during the semester. Furthermore, the everyday presence of the students at the lab will be taken under consideration and their active participation in applying the lab exercise will be evaluated. The final examination's duration is 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.



Module: Exercise Physiology

Teaching period: 4th semester

Learning outcomes: Ergophysiology's purpose is to enable students develop skills to design an exercise, on condition that they have comprehended that:

- i) The function of the human body systems is subjected to significant adjustments during physical exercise. These adjustments can be either short term or long term ones,
- ii) The functional rehabilitation of the patient, which is achieved with exercise, demands the comprehension of the effects of different types and frequency of the exercise for a safe and effective design based on the fundamental coaching principles,
- iii) The design of exercise is customized for every healthy person or a patient and specialized for every goal.

Teaching method:

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

Week by week schedule: Ergophysiology is summarised in 45 teaching hours, organised in 15 3-hour sessions, in which student attendance is essential.

Week	Unit
1	Introduction to Ergophysiology: Special Features of the Human Organism Function during Physical Exercise - Short Term/Long Term Organic Adjustments to Muscular Exercise
2	Muscle Contraction Physiology
3	Types of Muscle Fibres - Special Features
4	Physical Exercise Energy Sources: ATP, Phosphocreatine, Glucogen/Glucose, Fats, Proteins - Introduction to the Energy Production Mechanisms
5	Anaerobic Agalactic Mechanism



Technological Educational Institute of Patras Greece
Department of Physiotherapy

6	Anaerobic Glycolysis - Anaerobic Lactic Mechanism
7	Aerobic Mechanism: Krebs' Cycle, Respiratory Chain
8	Basic Principles of Exercise: Specialization, Progression, Overload, Inversion
9	Methods of Exercise: Continuous, Interval
10	Characteristics of Physical Exercise in order to Strengthen and Improve the Anaerobic Mechanisms of Energy Production
11	Characteristics of Physical Exercise in order to Improve the Aerobic Mechanism of Energy Production
12	Mechanisms of Fatigue and Rehabilitation of Physical Abilities
13	Special Features of Exercise for Special Populations, Special Conditions: Age, Gender, Warm/Cold Environment
14	Ergophysiological Assessment - Measuring Instruments
15	Repetition

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



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

- 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:

- Β. Κλεισούρα. *Εργοφυσιολογία (Τόμος I & II)*. Εκδ. Πασχαλίδη (Αθήνα 2004) (*Ergophysiology, Vol I & II*)
- McArdle, Katch, Katch Εκδ. *Φυσιολογία της Άσκησης (Τόμος I & II)*. Πασχαλίδη (Αθήνα 2001) (*Physiology of Exercise, Vol I & II*)
- Wilmore, Costill. *Φυσιολογία της Άσκησης και του Αθλητισμού*. Εκδ. Πασχαλίδη (Αθήνα 2006) (*Physiology of Exercise and Sports*)
- Φ.Ι. Χανιώτης. *Εργοφυσιολογία*. Λίτσας (Αθήνα, 2008) (*Ergophysiology*)

Assessment: Ergophysiology's assessment takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. Students have to achieve a result 5 out of 10 or higher to consider the subject passed. The examination's duration is 2 hours. After passing the subject, the students are awarded with 5 ECTS credits.

Module: Physical Modalities – Electrotherapy II (Theory)

Teaching period: 4th semester

Learning outcomes:

- i) Introduction to modalities,
- ii) Understanding of the physiological changes caused after their application,
- iii) Perform safely electrotherapy in order to heal different types of injured tissues,
- iv) Introduction to neuromuscular electrostimulation, TENS, FES, Iontophoresis, Laser, Shockwave, EMG Biofeedback,
- v) Indications and contraindications in order to apply the assessment and decision making thinking for the appropriate electrotherapeutic or modalities, approach.

Teaching method:

- i) Lectures by the teaching professor,
- ii) Student presentations,
- iii) Lectures by guest professors,
- iv) Interactive sessions.

Week by week schedule: The theoretical part of Modalities – Electrotherapy II is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Familiarization with the Equipment. Application with one or more Circuits. Electrode Installation, Interstitial Material
2	Galvanization. Hyperaemia as a Result of Applying Continuous Electricity. Iontophoresis



Technological Educational Institute of Patras Greece
Department of Physiotherapy

3	Interferential currents. Programs Combination, Reverse Polarity. Analgesic & Oedema Protocols
4	Electrodiagnostics. Finding the Kinetic Point, Chronaxia, Ratio Adjustment.
	<i>1st Intermediate Evaluation</i>
5	Electrogymnastics. Program Compilation, Current Configuration, Monopolar Application
6	Electric Stimulation of Muscles without Physiological Neurosis. Outcome Evaluation of Electrodiagnostics. Power Configuration, Bipolar Application
7	Functional Electromuscular Stimulation (FES). Combination of Electric Stimulation with Active Exercise
8	Russian Stimulation (Kotz). 10-50-10 Technique
	<i>2nd Intermediate Evaluation</i>
9	High Frequency TENS. Applications with one or more Circuits
10	Low Frequency TENS. Electric Acupuncture. Burst. Finding Special Points with a Resistance Measurement Appliance
11	Cross Electricity. Bipolar and Monopolar Applications. Vector Successiveness, Automatic and Manual. Applications for Analgesia and Strengthening of Large Muscles
12	Strengthening and Analgesia Applications with High-voltage Power. Traebert Current.
	<i>3rd Intermediate Evaluation</i>
13	Electromyographic (EMG) Biofeedback
14	Demonstration of Portable Electrotherapy Devices. Teaching the Patient to Use at Home
15	Repetition

Textbooks/reference material:

In English:

- Matijaca A. (2009). Electro-Therapy in the Abstract for the Busy Practitioner.
General Books



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

- Robertson V., Ward A., Low J., Reed A. (2006). *Electrotherapy Explained: Principles and Practice*. Butterworth – Heinemann
- Robinson A.J, Snyder-Mackler L. (2007). *Clinical Electrophysiology: Electrotherapy and Electrophysiologic Testing*. 3rd ed. Lippincott Williams & Wilkins
- Watson T. (2008). *Electrotherapy: evidence-based practice*
- 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 (*Clinical Electrotherapy, 2 Volumes*)
- Φραγκοράπτης Ε. (2002). *Εφαρμοσμένη Ηλεκτροθεραπεία*. Εκδόσεις Σάλτο, Θεσ/νίκη (*Clinical Electrotherapy*)

Assessment: Assessment of the theoretical part of Modalities – Electrotherapy II takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 5 ECTS credits.

Module: Physical Modalities – Electrotherapy II (Lab)

Teaching period: 4th semester

Learning outcomes:

- i) Understanding of the physiological changes caused after their application,
- ii) Perform safely electrotherapy in order to heal different types of injured tissues,
- iii) Introduction to neuromuscular electrostimulation, TENS, FES, Iontophoresis, Laser, Shockwave, EMG Biofeedback,



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- iv) Indications and contraindications in order to apply the assessment and decision making thinking for the appropriate electrotherapeutic or modalities approach.

Teaching method:

- i) Power point presentations,
- ii) Use of appliances-accessories which are available for every student in the university facilities,
- iii) Use of students as models,
- iv) Means of contact,
- v) Suggestions of the effects on biological tissues.

Week by week schedule: The lab part of Modalities – Electrotherapy II is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	Familiarization with the Equipment. Application with one or more Circuits. Electrode Installation, Interstitial Material
2	Galvanization. Hyperaemia as a Result of Applying Continuous Electricity. Iontophoresis
3	Interferential currents. Programs Combination, Reverse Polarity. Analgesic & Oedema Protocols
4	Electrodiagnostics. Finding the Kinetic Point, Chronaxia, Ratio Adjustment.
	<i>1st Intermediate Evaluation</i>
5	Electrogymnastics. Program Compilation, Current Configuration, Monopolar Application
6	Electric Stimulation of Muscles without Physiological Neurosis. Outcome Evaluation of Electrodiagnostics. Power Configuration, Bipolar Application
7	Functional Electromuscular Stimulation (FES). Combination of Electric Stimulation with Active Exercise
8	Russian Stimulation (Kotz). 10-50-10 Technique



Technological Educational Institute of Patras Greece
Department of Physiotherapy

	<i>2nd Intermediate Evaluation</i>
9	High Frequency Transcutaneous Electrical Nerve Stimulation(TENS). Applications with one or more Circuits
10	Low Frequency TENS. Electric Acupuncture. Burst. Finding Special Points with a Resistance Measurement Appliance
11	Cross Electricity. Bipolar and Monopolar Applications. Vector Successiveness, Automatic and Manual. Applications for Analgesia and Strengthening of Large Muscles
12	Strengthening and Analgesia Applications with High-voltage Power. Traebert Current.
	<i>3rd Intermediate Evaluation</i>
13	Electromyographic (EMG) Biofeedback
14	Demonstration of Portable Electrotherapy Devices. Teaching the Patient to Use at Home
15	Repetition

Textbooks/reference material:

In English:

- Matijaca A. (2009). *Electro-Therapy in the Abstract for the Busy Practitioner. General Books*
- Robertson V., Ward A., Low J., Reed A. (2006). *Electrotherapy Explained: Principles and Practice. Butterworth – Heinemann*
- Robinson A.J, Snyder-Mackler L. (2007). *Clinical Electrophysiology: Electrotherapy and Electrophysiologic Testing. 3rd ed. Lippincott Williams & Wilkins*
- Watson T. (2008). *Electrotherapy: evidence-based practice*
- 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 (Clinical Electrotherapy, 2 Volumes)*
- Φραγκοράπτης Ε. (2002). *Εφαρμοσμένη Ηλεκτροθεραπεία. Εκδόσεις Σάλτο, Θεσ/νίκη (Clinical Electrotherapy)*



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

Assessment: Laboratory assessment of Modalities – Electrotherapy II takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.

Module: Foreign Language – Terminology

Teaching period: 5th semester

Learning outcomes: By the end of the semester, the students should be able to:

- i) Understand the English terms of anatomy, physiology, pathology etc
- ii) Conduct any type of project integrating English bibliography, which is essential for their thesis,
- iii) Monitor the developments in their field as future health professionals with help from modern foreign bibliography.

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.

Week by week schedule: English Physical Therapy Terms is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week	Unit
1	History Taking I
2	History Taking II
3	Basic Anatomy: Organs and Organ Systems I
4	Basic Anatomy: Organs and Organ Systems II
5	Basic Anatomy: Organs and Organ Systems III
6	Spinal Cord
7	Scoliosis and Kyphosis
8	Traumatic Brain Injury: Physiotherapy Treatment I
9	Traumatic Brain Injury: Physiotherapy Treatment II
10	Musculoskeletal System
11	First Aid
12	Disabled People
13	Sports
14	Code of Conduct
15	Repetition

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*)

Assessment: Assessment of English Physical Therapy Terms takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. Students have to achieve a result 5 out of 10 or higher to



consider the subject passed. The examination's duration is 2 hours. After passing the subject, the students are awarded with 3 ECTS credits.

Module: Cardiovascular Physiotherapy (Theory)
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Teaching period: 5th semester

Learning outcomes:

- i) Basic target of this lesson is the student to understand that physiotherapy on the cardiovascular system does not offer specialized knowledge that would be useful only to a physiotherapist who is occupied exclusively at cardiac rehabilitation,
- ii) The knowledge that a student gains assists him/her to evaluate a patient as a whole and not only focus on the disease that somebody is requiring help for. For example, most older people that require physiotherapy, might seem healthy, but they possibly have some diseases that should not elude a therapist's attention (Hypertension-Hypotension, Arrhythmia, Angina, Venous Insufficiency etc)
- iii) By taking a proper medical history and recognizing several symptoms that could reveal a cardiac disease, one can avoid unfortunate situations such as fainting, dizziness, overfatigue, excessive increase of blood pressure that can occur in a physiotherapy clinic.

Teaching method:

- i) Visual means such as slideshows,
- ii) Lectures,
- iii) Discussions with the students.

Week by week schedule: The theoretical part of Physiotherapy of the Cardiovascular System is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week	Unit
1	Introduction to the basic units of the subject
2	Heart, Anatomical & Physiological Elements of the Cardiac Function
3	Cardiac Parameters & Heart Rate. Stroke Volume (SV), Cardiac Output (CO), Ejection Fraction (EF), Maximal Oxygen Output, Blood Pressure
4	Cardiovascular Diseases, Innate & Acquired
5	Paraclinical Heart Tests, Electrocardiogram
6	Stress Test - Its Clinical Significance as a Diagnostical Tool and as an Exercise Tension Determinative Tool
7	Fundamental Principles of Designing an Exercise for Cardiovascular Rehabilitation
8	Coronary Artery Disease, Angina, Myocardial Infraction (MI)
9	Cardiovascular Intensive Care Unit. Open and Closed Heart Surgery
10	Designing an Exercise for Heart Failure and Constant Angina
11	Arteries, Anatomical Elements & Artery Diseases
12	Veins, Anatomical Elements & Vein Diseases
13	Circulatory Collapse - First Aid for Heart Attack - Loss of Consciousness
14-15	Repetition

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



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

- 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 (*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*)
- Chapman S., Robinson G., Stradling J., West S. (2007). *Oxford Εγχειρίδιο Πνευμονολογίας* (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Πασχαλίδης, Αθήνα (*Oxford Manual of Pneumology*)

Assessment: Assessment of the theoretical part of Physiotherapy of the Cardiovascular System takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 5 ECTS credits.

Module: Cardiovascular Physiotherapy (Lab)

Teaching period: 5th semester

Learning outcomes: By the end of the semester, the students should be able to know the following:

- i) What heart rate and blood pressure are, how they change with exercise and what is their clinical significance for cardiac rehabilitation programs and for the general population,
- ii) What stress test is and what is its utility for cardiac rehabilitation programs and for coronary artery disease prevention programs,
- iii) Students will also have an overview of cardiac rehabilitation and will be able to suggest therapeutic exercise to a cardiopath, always in collaboration with the doctor and the rehabilitation team. Proper exercise and determination of the tension are the most difficult part of rehabilitation and requires specialization and excessive occupation on this field,
- iv) They will also be able to suggest therapy and exercise to patients with peripheral arteriopathy or venous diseases.

Teaching method: The teaching method of subject's the lab part concentrates mostly in making student groups in order to cooperate and practice for more effective and interesting sessions.

Week by week schedule: The lab part of Physiotherapy of the Cardiovascular System is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week	Unit
1	Introduction to the Basic Units of the Subject
2	Hearing heart, Heart Rate - Artery Pulse Measurement
3	Blood Pressure Measurement
4	Exercise & Heart Rate - Blood Pressure. How These 2 Parameters are affected by Aerobic - Anaerobic Exercise and what is their Clinical Significance for Cardiac Rehabilitation
5	Evaluation of a Heart Disease's Clinical Points (Dyspnea, Edema, etc)
	<i>1st Lab Evaluation</i>
6	Place and Way to Conduct a Stress Test, Application with Protocols and Examples
7	Physiotherapy for Rehabilitation - General Principles for Exercise Prescription
8	Physiotherapeutic Intervention for a Heart Attack Patient in all Stages (ICU & High dependency Units, In-patient clinic, Stages II and III)
9	Physiotherapy for Heart Surgeries, ICU K/X , Pacemaker, Heart Transplantation
	<i>2nd Lab Evaluation</i>
10	Exercise for Heart Failure - Constant Angina
11	Physiotherapeutic Rehabilitation for Peripheral Arteriopathies - Exercise
12	Physiotherapeutic Intervention for Acute and Chronic Thrombophlebitis, Chronic Venous Insufficiency
	<i>3rd Lab Evaluation</i>
13-15	Repetition

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



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- 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 (*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*)
- Chapman S., Robinson G., Stradling J., West S. (2007). Oxford Εγχειρίδιο Πνευμονολογίας (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Πασχαλίδης, Αθήνα (*Oxford Manual of Pneumology*)



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

Assessment: Laboratory assessment of Physiotherapy of the Cardiovascular System takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.

Module: Musculoskeletal Physiotherapy I (Theory)

Teaching period: 5th semester

Learning outcomes: The subject's main purpose is for the students to develop an evaluating and decision making thinking for the appropriate therapy based on the scientific criteria depending on evidence and contraindications for all the basic musculoskeletal disorders. Also, a basic point is to clarify the need for progressive rehabilitation based on the improvement criteria from one stage to the next.

Teaching method:

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

Week by week schedule: The theoretical part of Musculoskeletal Physiotherapy I is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week	Unit
1	Introduction to Muscle, Tendon, Ligament and Bone Traumatism and Diseases
2	Fundamental Principles to Evaluate Muscle, Tendon, Ligament and Bone Injuries
3	Fundamental Principles of Tissue Collagen Healing: Inflammation, Reconstruction, Maturation Phases and Rehabilitation Principles
4	Ligament Injuries: Ligament Pathophysiology
5	Tendinous Injuries: Tendon Pathophysiology
6	Muscle Injuries: Muscle Tissue Pathophysiology
7	Dislocations - Subluxations: Synovial Follicle Pathophysiology
8	Fractures: Fracture Types, Fundamental Principles of Surgical Treatment, Physiotherapy's Targets for Postoperative or Conservative Treatment
9	Special Evaluation Tests for Upper Limb - Upper Trunk Traumatism
10	Special Evaluation Tests for Lower Limb - Lower Trunk Traumatism
11	Functional Exercise Principles for Musculoskeletal Rehabilitation
12	Rehabilitation Protocols for Upper Limb - Upper Trunk Diseases
13	Rehabilitation Protocols for Lower Limb - Lower Trunk Diseases
14	Obstetric Paralysis - Torticollis
15	Repetition

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. 2nd ed. Butterworth-Heinemann, Boston.
- Cleland J. (2005). Orthopaedic clinical examination: an evidence-based approach for physical therapists. Icon Learning Systems, Carlstadt, N.J.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- 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. Elsevier / 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. Elsevier 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 (*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*)



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- Kisner C, Colby LA. (2003) *Θεραπευτικές Ασκήσεις. Βασικές Αρχές και Τεχνικές*, (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Σιώκη, Θεσσαλονίκη (*Therapeutic Exercise. Foundations and Techniques*)

Assessment: Assessment of the theoretical part of Musculoskeletal Physiotherapy I takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 5 ECTS credits.

Module: Musculoskeletal Physiotherapy I (Lab)
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Teaching period: 5th semester

Learning outcomes:

- Comprehension of the basic methods of rehabilitation for various injuries of the musculoskeletal system,
- Comprehension of the evaluation, account, organisation and decision making thinking on the proper therapeutic approach,
- Verbal presentation skills development on specific issues.

Teaching method:

- Theoretical element presentations on the units,
- Presentations/demonstrations of the clinical methods of evaluation and rehabilitation,
- Discussions by student groups assigned with a mini-project on lab issues on a clinical level



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week by week schedule: The lab part of Musculoskeletal Physiotherapy I is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	Introduction - Fundamental Principles of Rehabilitation for Injuries of the Musculoskeletal System
2	Ligament Injuries I: Ankle Strains
3	Ligament Injuries II: Ligament Injuries of the Knee
4	Muscular Strains Grade I
5	Muscular Strains Grade II
6	Tendinopathies I: Rupture of the Achilles Tendon
7	Tendinopathies II: Epicondylalgia
8	Fractures I
9	Fractures II
10	Dislocations – Subluxations I: of the Shoulder Girdle(grade I)
11	Dislocations – Subluxations II: of the Patella(grade II)
12	Peripheral Nerves Injuries I
13	Peripheral Nerves Injuries II
14	Rehabilitation for Obstetric Paralysis
15	Rehabilitation for Torticollis

Textbooks/reference material:

In English:

- Boyling JD Palastagna N (1994) Grievess Modern Manual Therapy
- Braddorm R.L. (2002) Practical Guide to Musculoskeletal Disorders: Diagnosis and Rehabilitation, Butterworth – Heinmann
- Bruce J, (1997) The Puzzle of Stretching for Sport Physiotherapy in Sport vol: XX no:2: 14-15
- Butler DS (2000) The Sensitive Nervous System, Australia



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- Jones Rivett (2004) *Clinical Reasoning for Manual Therapists*, Butterworth – Heinmann
- Hunter G. (2000) *The Conservative Management of Achilles Tendinopathy* *Physical Therapy in Sport* 1, 6-14
- Voight M.L., Hoogenboom B.J. & Prentice W.E., (2006), *Musculoskeletal Interventions: Techniques for Therapeutic Exercise* (1st Ed.) McGraw Hill Medical
- Van der Wees P.J., Lenssen A.F., Hendriks E.J.M., Stomp D.J., Dekker J. & de Bie R.A., (2006), “Effectiveness of Exercise Therapy and Manual Mobilisation in Ankle Sprain and Functional Instability: A Systematic Review”, *The Australian Journal of Physiotherapy*, 52(1), 27-37

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*, 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*)

Assessment: Laboratory assessment of Musculoskeletal Physiotherapy I takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate



Technological Educational Institute of Patras Greece
Department of Physiotherapy

the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.

Module: Physiotherapy in Neural Diseases I (Theory)
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Teaching period: 5th semester

Learning outcomes: By the end of the semester the students should have comprehended:

- i) The disorders of movement, standing and balance, for kids with cerebral paralysis and patients with diseases of the peripheral nervous system,
- ii) The management of the muscle tone disorders,
- iii) The clinical and kinetic deficits on patients with diseases of the peripheral nervous system,
- iv) The way that physiotherapy affects the above.

Teaching method:

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

Week by week schedule: The theoretical part of Physiotherapy in Neurological Diseases I is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Introduction to the Central Nervous System
2	Neurokinetic Development - Theoretical Frame



Technological Educational Institute of Patras Greece
Department of Physiotherapy

3	Physiological Motor Control Development on Newborns & Infants (Supine - Prone Motor Development)
4	Development of Standing Control
5	Motor Control of Sitting - Walking
6	Balance - Protection Reactions
7	Development of Motor Control of the Upper Limb
8	Muscle Tone Disorders
9	Cerebral Paralysis
10	Clinical Findings on Cerebral Paralysis Forms
11	Peripheral Nervous System
12	Polyneuropathies
13	Guillen - Barre
14	Physiotherapeutic Intervention
15	Repetition

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, 3rd edition. Published by Lippincot Williams-Wilkins
- 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.



- 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*)

Assessment: Assessment of the theoretical part of Physiotherapy in Neurological Diseases I takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 5 ECTS credits.

Module: Physiotherapy in Neural Diseases I (Lab)

Teaching period: 5th semester

Learning outcomes: The main target of the subject is to make students understand:

- i) The disorders of movement, standing and balance, for kids with cerebral paralysis and patients with diseases of the peripheral nervous system,
- ii) The management of the muscle tone disorders,
- iii) The clinical and kinetic deficits on patients with diseases of the peripheral nervous system,
- iv) The way that physiotherapy affects the above.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Also, it is essential for the students to develop critical ability in order to choose the therapeutic intervention and practically exercise on specific clinical examples.

Teaching method:

- i) Video projections on various clinical examples
- ii) Demonstration of ways and methods of therapeutic intervention
- iii) Practical exercise

Week by week schedule: The lab part of Physiotherapy in Neurological Diseases I is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	Evaluation of Neurological Patients - Healthy Newborn
2	Cerebral Paralysis - Evaluation of Newborns from Supine - Prone Decubitus
3	Cerebral Paralysis - Evaluation of Newborns at Seated, Standing Position. Walking
4	<i>Intermediate Evaluation</i> Functional Deficits - Lower Limbs, Sitting
5	Functional Deficits - Getting up and Walking
6	Motor Dysfunctions (Motor Standards and Countervailing)
7	Functional Education
8	<i>Intermediate Evaluation</i> Facilitation Technique for Infants and Children
9	Physiotherapeutic Approach for Hypotonic Infants&Children
10	Physiotherapeutic Approach for Hypertonic Infants&Children
11	<i>Intermediate Evaluation</i> Diseases of the Peripheral Nervous System: Clinical Findings - Functional Deficits
12	Sensibility Evaluation - Physiotherapeutic Approach for Acute Phase



Technological Educational Institute of Patras Greece
Department of Physiotherapy

13	Physiotherapeutic Approach for Subacute - Chronic Phase
14-15	Repetition



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, 3rd edition. Published by Lippincot Williams-Wilkins
- 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.
- 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*)

Assessment: Laboratory assessment of Physiotherapy in Neurological Diseases I takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted



Technological Educational Institute of Patras Greece
Department of Physiotherapy

by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.

Module: Management – Advertising

Teaching period: 5th semester

Learning outcomes:

- i) Comprehension of the fundamental principles of marketing and advertising as well as their materialization from enterprises and freelancers,
- ii) Comprehension of the Greek market function and consumers' behavior,
- iii) Development of advertising programs based on real life advertising spots & programs, public relations and publicity.

Teaching method:

- i) Classic theoretical presentations,
- ii) Analysis/discussion of enterprises examples application of marketing and advertising techniques,
- iii) Presentation of advertisements.

Week by week schedule: Management & Advertising is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Introduction to Management & Advertising
2	Marketing and Sales - Analysis of the Field on Sales Function Level
3	Philosophy and Contribution of Marketing for Businesses - Basic Functions of Marketing - Marketing Plan



Technological Educational Institute of Patras Greece
Department of Physiotherapy

4	The place of Sales in the Marketing System - Basic Differences in Marketing and Sales Philosophy
5	Design and Analysis of Sales - Strategy/Structure and Reward of Sales - Examples
6	Micro & Macro Environment of a Business: How the Micro-Environment (suppliers, customers etc) and the Macro-Environment (economical, political, technological etc) of a Business are Formed Nowadays - Examples
7	Analysis of the Market Share of a Business. How it is Distributed - How it is Calculated - Examples
8	The Concept of Market Segmentation. Advantages - Disadvantages - Categories
9	Choosing the Target Market. How we Choose our Target Market - Criteria - Goals & Strategy
10	Installing the Product or Service in the Customer's Mind. Customers' Concept Map
11	Stages of Sales. Detailed Presentation of the Selling Process - Examples - Dialogues. Closing the Sale - Techniques
12	The Concept of Advertising. Advertisement Types and Categories - Examples and Advertising Analysis
13	The Basic Elements that Govern the Function of an Advertisement. Advertisement Creation - Cost - Effectiveness
14	Analysis of an Advertisement's Targets - The Place of Advertising in Greece - Examples - Advertising Agencies - Advertised Categories - Advertising Budget
15	Marketing and Advertising - How the Marketing Targets are Achieved through Advertisements - Analysis of a Marketing Plan - Examples - Questions



Textbooks/reference material:

In Greek:

- *Marketing Management – Ανάλυση/Σχεδιασμός, Υλοποίηση & Έλεγχος*. Philip Kotler, A’&B’ Τόμος, 2005 (*Marketing Management – Analysis/Design, Implementation & Control*)
- *Διοίκηση Μάρκετινγκ – Η Ελληνική Προσέγγιση – Κώστας & Αλεξία Τζωρτζάκη*, 2005 (*Marketing Management – The Greek Approach*)
- *Πληροφοριακά Συστήματα και Νέες Τεχνολογίες στο Μάρκετινγκ*, Μ. Βλαχοπούλου, 2006 (*Information Systems and New Technologies in Marketing*)
- *Εισαγωγή στο Μάρκετινγκ και στην Έρευνα Αγοράς*, Πέτρος Τομαράς, 2006 (*Introduction to Marketing and Market Research*)
- *Η Διαφήμιση στην Ελλάδα – Σχεδιασμός και Λειτουργίες*, Γιώργος Ζώτος, 2005 (*Advertising in Greece – Design and Functions*)

Assessment: Management and Advertising assessment takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. Students have to achieve a result 5 out of 10 or higher to consider the subject passed. The examination’s duration is 2 hours. After passing the subject, the students are awarded with 3 ECTS credits.

Module: Clinical Practice I (Theory)

Teaching period: 5th semester

Learning outcomes:

- i) Comprehension of the basic methods of respiratory physiotherapy for various diseases of the respiratory system,
- ii) Comprehension of the evaluation and decision making thinking on the appropriate physiotherapeutic approach for respiratory patients,



Technological Educational Institute of Patras Greece
Department of Physiotherapy

iii) Skills development in order to create rehabilitation programs for respiratory patients.

Teaching method:

- i) Classic theoretical presentations,
- ii) Presentations of incidents and indicative ways of rehabilitation,
- iii) Discussion, troubleshooting and answering students' questions from their practical exercise in the hospitals.

Week by week schedule: The theoretical part of Clinical Practice I is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Introduction - Respiratory System: Anatomy - Physiology - Kinesiology
2	Respiratory Physiotherapy
3	Physiotherapeutic Evaluation
4	Incidents: Emphysema - Bronchitis
5	Incidents: Bronchiectasis - Atelectasis
6	Incidents: Diseases with Reduced Muscle Power of the Respiratory Muscles
7	Incidents: Diseases with Reduced Distensibility of the Lungs
8	Students: Incident (Analysis - Discussion)
9	Incidents: Diseases with Reduced Thoracic Distensibility
10	Incidents: Physiotherapy in ICU
11	Incidents: Obesity - Pregnancy - Psychological Factors
12	Incidents: Lung Transplantation
13	Incidents: Lung Ca
14	Students: Incident (Analysis - Discussion)
15	Repetition



Textbooks/reference material:

In English:

- “Physiotherapy for Respiratory and Cardiac Problems (Adults and Pediatrics)”. Pryor, Jennifer A., Prasad, Ammani. S. Churchill and Livingstone. 4th revised edition 2007
- “Physiotherapy in Respiratory Care: A problem Solving Approach”, Hough, Alexandra. Nelson Thornes Ltd. 3rd revised edition 2001
- March A. (2005) A Review of Respiratory Management in Spinal Cord Injury. Journal of Orthopaedic Nursing, 9:19-26
- Spruit M.A., Gosselink R., Troosters T., Depaepe K., Decramer M. (2002). Resistance vs Endurance Training in Patients with COPD and Peripheral Muscle Weakness. European Respiratory Journal, 19:1072-1078
- Berney S., Denehy L. (2003). The effect of physiotherapy treatment on oxygen consumption and haemodynamics in patients who are critically ill. Australian Journal of Physiotherapy; 49:99-105
- Ciesla N. (1996). Chest physical therapy for patients in the intensive care unit. Phys Ther; 76:609-625
- Mackenzie C., Imle C., Ciesla N. (1989). Chest physiotherapy in the intensive care unit. 2nd ed. Williams & Wilkins. Baltimore, Maryland
- Ellis E., Alison J. Key (1994). Issues in Cardiorespiratory Physiotherapy. 2nd edition, Butterworth-Heinemann, Oxford
- Polden M.M. (1991). Physiotherapy in obstetrics and gynaecology, Butterworth-Heinemann, Oxford
- Stiller K. (2007). Safety issues that should be considered when mobilizing critically ill patients. Critical Care Clin; 23:35-37
- Stiller K. (2000). Physiotherapy in intensive care towards an evidence-based practice. Chest; 118:1801-1813
- Zeppos L., Patman S., Berney S. et al. (2007). Physiotherapy intervention in intensive care is safe: an observatory study. Australian Journal of Physiotherapy; 53:279-283



In Greek:

- Μυριανθεύς Π., Μπαλτόπουλος Γ. (2005). *Μηχανική υποστήριξη της αναπνοής*. Ιατρικές εκδόσεις Πασχαλίδης, Αθήνα (*Mechanical Breathing Support*)
- Νανάς Σ. (2006). *Καρδιοαναπνευστική Δοκιμασία Κοπώσεως και Προγράμματα Καρδιοαναπνευστικής Αποκατάστασης*. Εκδόσεις Αθ. Σταμούλης (*Cardiopulmonary Exercise Test and Cardiopulmonary Rehabilitation Programs*)
- Νανάς Σ. (2006). *Αλγόριθμοι στην Καρδιοπνευμονική Αναζωογόνηση*. Εκδόσεις Αθ. Σταμούλης (*Algorithms in Cardiopulmonary Resuscitation-CPR*)
- Brewis R.A.L. (2003). *Νόσοι του Αναπνευστικού Συστήματος*. Εκδ. Παρισιάνος (*Diseases of the Respiratory System*)
- Chapman S., Robinson G., Stradling J., West S. (2007) *Εγχειρίδιο Πνευμονολογίας*. (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Πασχαλίδης, Αθήνα (*Manual of Pneumology*)
- Ellestad M.H. (1999). *Δοκιμασία Φόρτισης: Αρχές και Εφαρμογές*. (Μετάφραση Αγγλικής Έκδοσης) Εκδόσεις Πασχαλίδη, Αθήνα (*Charge Test: Principles and Applications*)
- Hampton J.R. *Ταχεία Ερμηνεία ΗΚΓ*. (2002), (Μετάφραση Αγγλικής Έκδοσης) Εκδόσεις Πασχαλίδη, Αθήνα (*The ECG made easy*)
- Reid W.D, Chung F. (2008). *Κλινική προσέγγιση στην Καρδιοαναπνευστική Φυσικοθεραπεία*. (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Π.Χ. Πασχαλίδη, Αθήνα (*Clinical Approach in Cardiopulmonary Physiotherapy*)

Assessment: Assessment of the theoretical part of Clinical Practice I takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. Nevertheless, the



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

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 9 ECTS credits.

Module: Clinical Practice I (Lab)

Teaching period: 5th semester

Learning outcomes:

- i) Familiarization of the students with cardiopneumatic patients and their particularities,
- ii) Skills development concerning the approach and evaluation of the patient as well as the decision making on the appropriate therapeutic method,
- iii) Development of fluency concerning the design and application of integrated rehabilitation plans for every cardiovascular and respiratory disease.

Teaching method:

- i) Study of medical files,
- ii) Complete evaluation of the patient,
- iii) Design of the optimal therapeutic program and application on the patient, in collaboration with the medical and nursing staff of the facility.
- iv) Discussions in order to solve any possible problems.

Week by week schedule: Clinical Practice I Lab is summarised in 120 teaching hours, organised in 30 4-hour sessions (2 sessions per week, meaning 15 weeks total), in which student attendance is mandatory. The sessions take place at the local university hospital.

Week	Unit
1	Evaluation of the Cardiopneumatic Patient
2	Cardiopneumatic Physiotherapy for Chronic Obstructive Pneumopathy
3	Cardiopneumatic Physiotherapy for Bronchial Asthma
4	Cardiopneumatic Physiotherapy for Pleuritic Fluid Collection
5	Cardiopneumatic Physiotherapy for Pneumothorax



Technological Educational Institute of Patras Greece
Department of Physiotherapy

6	Cardiopneumatic Physiotherapy for Ankylosing Spondylarthritis
7	Cardiopneumatic Physiotherapy for Kyphoscoliosis
8	Cardiopneumatic Physiotherapy for Obesity
9	Cardiopneumatic Physiotherapy for Dyspnea Treatment
10	Cardiopneumatic Physiotherapy for Respiratory Failure
11	Cardiopneumatic Physiotherapy for Heart Failure
12	Preoperative and Postoperative Cardiopneumatic Physiotherapy (Thorax Surgery)
13	Preoperative and Postoperative Cardiopneumatic Physiotherapy (Abdomen Surgery)
14	Oxygen Therapy and Mechanical Breathing Support
15	Cardiopneumatic Physiotherapy in Intensive Care Unit (ICU)

Clinical education model: The majority of the clinical sessions are conducted at the University Hospital of Rio and specifically for Clinical Practice I in the Cardiology, Pathology, Pneumology, Surgery, Cardiosurgery and Thoracic Surgery Clinics of the hospital. During the sessions, the students are given the opportunity to gain their knowledge and perform their practice on real patients of every age, gender, nationality and even with mental health problems. The students are divided in groups of 5 persons, which are supervised by a professor of the university and the chief of each clinic of the hospital at all times. Furthermore, some of the sessions are materialized at the local nursing home. In every case, the students are taught to educate the patients to perform some of the exercises themselves in order to maintain the effects of physiotherapy even after the end of the treatment, or in situations where the patient cannot exercise on his/her own, their family is taught to do so.

Textbooks/reference material:

In English:



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- “Physiotherapy for Respiratory and Cardiac Problems (Adults and Pediatrics)”. Pryor, Jennifer A., Prasad, Ammani. S. Churchill and Livingstone. 4th revised edition 2007
- “Physiotherapy in Respiratory Care: A problem Solving Approach”, Hough, Alexandra. Nelson Thornes Ltd. 3rd revised edition 2001
- March A. (2005) A Review of Respiratory Management in Spinal Cord Injury. *Journal of Orthopaedic Nursing*, 9:19-26
- Spruit M.A., Gosselink R., Troosters T., Depaepe K., Decramer M. (2002). Resistance vs Endurance Training in Patients with COPD and Peripheral Muscle Weakness. *European Respiratory Journal*, 19:1072-1078
- Berney S., Denehy L. (2003). The effect of physiotherapy treatment on oxygen consumption and haemodynamics in patients who are critically ill. *Australian Journal of Physiotherapy*; 49:99-105.
- Ciesla N. (1996). Chest physical therapy for patients in the intensive care unit. *Phys Ther*; 76:609-625.
- Mackenzie C., Imle C., Ciesla N. (1989). Chest physiotherapy in the intensive care unit. 2nd ed. Williams & Wilkins. Baltimore, Maryland.
- Ellis E., Alison J. Key (1994). *Issues in Cardiorespiratory Physiotherapy*. 2nd edition, Butterworth-Heinemann, Oxford.
- Polden M.M. (1991). *Physiotherapy in obstetrics and gynaecology*, Butterworth-Heinemann, Oxford.
- Stiller K. (2007). Safety issues that should be considered when mobilizing critically ill patients. *Critical Care Clin*; 23:35-37.
- Stiller K. (2000). Physiotherapy in intensive care towards an evidence-based practice. *Chest*; 118:1801-1813.
- Zeppos L., Patman S., Berney S. et al. (2007). Physiotherapy intervention in intensive care is safe: an observatory study. *Australian Journal of Physiotherapy*; 53:279-283.



In Greek:

- Μυριανθεύς Π., Μπαλτόπουλος Γ. (2005). *Μηχανική υποστήριξη της αναπνοής*. Ιατρικές εκδόσεις Πασχαλίδης, Αθήνα (*Mechanical Breathing Support*)
- Νανάς Σ. (2006). *Καρδιοαναπνευστική Δοκιμασία Κοπώσεως και Προγράμματα Καρδιοαναπνευστικής Αποκατάστασης*. Εκδόσεις Αθ. Σταμούλης (*Cardiopulmonary Exercise Test and Cardiopulmonary Rehabilitation Programs*)
- Νανάς Σ. (2006). *Αλγόριθμοι στην Καρδιοπνευμονική Αναζωογόνηση*. Εκδόσεις Αθ. Σταμούλης (*Algorithms in Cardiopulmonary Resuscitation-CPR*)
- Brewis R.A.L. (2003). *Νόσοι του Αναπνευστικού Συστήματος*. Εκδ. Παρισιάνος (*Diseases of the Respiratory System*)
- Chapman S., Robinson G., Stradling J., West S. (2007) *Εγχειρίδιο Πνευμονολογίας*. (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Πασχαλίδης, Αθήνα (*Manual of Pneumology*)
- Ellestad M.H. (1999). *Δοκιμασία Φόρτισης: Αρχές και Εφαρμογές*. (Μετάφραση Αγγλικής Έκδοσης) Εκδόσεις Πασχαλίδη, Αθήνα (*Charge Test: Principles and Applications*)
- Hampton J.R. *Ταχεία Ερμηνεία ΗΚΓ*. (2002), (Μετάφραση Αγγλικής Έκδοσης) Εκδόσεις Πασχαλίδη, Αθήνα (*The ECG made easy*)
- Reid W.D, Chung F. (2008). *Κλινική προσέγγιση στην Καρδιοαναπνευστική Φυσικοθεραπεία*. (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Π.Χ. Πασχαλίδη, Αθήνα (*Clinical Approach in Cardiopulmonary Physiotherapy*)

Assessment: Clinical Practice I laboratory assessment takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the



Technological Educational Institute of Patras Greece
Department of Physiotherapy

skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 9 ECTS credits.

Module: First-Aid, Hygiene (Theory)

Teaching period: 6th semester

Learning outcomes:

- i) Realization of the importance of First-Aid
- ii) Comprehension of the proper First-Aid techniques
- iii) Updating on health issues (renewal or upgrade of knowledge)
- iv) Realization of the importance of volunteering

Teaching method:

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

Week by week schedule: The theoretical part of First-Aid, Hygiene is summarised in 15 teaching hours, organised in 15 1-hour sessions, in which student attendance is essential.

Week	Unit
1	Introduction - Basics in First Aid
2	Evaluation of Acute Case of Accident - Psychological Approach
3	Cardiopulmonary Resuscitation (CPR)
4	Shock
5	Loss of Consciousness
6	Musculoskeletal Injuries
7	Injuries Caused by Physical Hazards (Cold and Heat)
8	Electrical Injuries - Asphyxia - Spasms



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

9	Poisoning
10	Psychiatric Acute Cases
11	First-Aid in Different Workplaces
12	Accidents in Many Persons Coincidentally
13	Community Disasters
14	AIDS and First Aid in Workplaces
15	Repetition

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 Δίστιγμα, 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*)

Assessment: Assessment of the theoretical part of First-Aid, Hygiene takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and



Technological Educational Institute of Patras Greece
Department of Physiotherapy

closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 4 ECTS credits.

Module: First-Aid, Hygiene (Lab)

Teaching period: 6th semester

Learning outcomes:

- i) Comprehension of the basic principles of First-Aid
- ii) Skills development in order to provide First-Aid

Teaching method:

- i) Theoretical presentations,
- ii) Laboratory demonstrations,
- iii) Discussions,
- iv) Applications among the students (recreation).

Week by week schedule: The lab part of First-Aid, Hygiene is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	First-Aid in General
2	Evaluation of the Condition of the Acute Patient
3	Acute Respiratory Problems and Artificial Respiration
4	Cardiopulmonary Resuscitation (CPR)
5	CPR Training
6	Loss of Consciousness
7	Soft Tissue Injuries
8	Musculoskeletal Injuries
9	Injuries Caused by Physical Hazards (Cold and Heat)



Technological Educational Institute of Patras Greece
Department of Physiotherapy

10	Injuries by Other Causes: Electrocutation, Drowning
11	Poisoning
12-15	Repetition

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 Δίστιγμα , 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*)

Assessment: First-Aid, Hygiene laboratory assessment takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be



Technological Educational Institute of Patras Greece
Department of Physiotherapy

5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 4 ECTS credits.

Module: Diagnostic Imaging

Teaching period: 6th semester

Learning outcomes:

- i) Comprehension of the basic imaging methods of various areas of the human body,
- ii) Comprehension of the evaluation and decision making thinking on the appropriate imaging for various musculoskeletal diseases,
- iii) Skills development for qualitative evaluation of the imaging method.

Teaching method:

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

Week by week schedule: Diagnostic Imaging is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Introduction to Diagnostic Imaging
2	Contemporary Imaging Methods
3	X-Rays and Imaging Systems
4	Characterization of Radiographs, Computed Tomography (CT)
5	Magnetic Resonance Imaging (MRI), Digital Subtraction Angiography (DSA)
6	Ultrasounds, PET, SPECT
7	Degenerative Deteriorations of the Spine
8	Physiological Radioanatomy of the Pelvis - Hips



Technological Educational Institute of Patras Greece
Department of Physiotherapy

9	Physiological Radioanatomy of the Shoulder - Upper Limbs
10	Arteriographies and Phlebographies
11	Physiological Radioanatomy of the Tibia - Fibula - Ankle Joint
12	Physiological Radioanatomy of the Thorax
13	Cardiovascular System
14	Digestive and Genitourinary System
15	Safety Measures for Ionizing Radiographs

Textbooks/reference material:

In English:

- DeMaio D. (1996). Registry review in Computed Tomography. Saunders.
- Guy C., Ffytche 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*)

Assessment: Diagnostic Imaging assessment takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. Students



Technological Educational Institute of Patras Greece
Department of Physiotherapy

have to achieve a result 5 out of 10 or higher to consider the subject passed. The examination's duration is 2 hours. After passing the subject, the students are awarded with 3 ECTS credits.

Module: Musculoskeletal Physiotherapy II (Theory)

Teaching period: 6th semester

Learning outcomes:

- i) To introduce students to the most important and commonly encountered musculoskeletal problems such as osteoarthritis, rheumatoid arthritis, joint replacements, postural asymmetries, several musculoskeletal syndromes etc., their pathology, pathogenesis, clinical picture, diagnosis, therapy options (operative and conservative) and prognosis.
- ii) To introduce students to the assessment of the musculoskeletal system.
- iii) To present the most common and important therapeutic methods for the musculoskeletal problems encountered. Emphasis is given on various therapeutic exercise techniques.
- iv) To improve the student's clinical reasoning skills in enabling them to apply the most appropriate intervention for each particular musculoskeletal dysfunction

Teaching method:

- i) Lectures by the teaching professor,
- ii) Clinical case study discussions.

Week by week schedule: The theoretical part of Musculoskeletal Physiotherapy II is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Introduction/Classification of Musculoskeletal Diseases
2	Basic Principles in the Evaluation of the Musculoskeletal System I
3	Basic Principles in the Evaluation of the Musculoskeletal System II
4	Diseases of the Lumbar Spine I



Technological Educational Institute of Patras Greece
Department of Physiotherapy

5	Diseases of the Lumbar Spine II
6	Diseases of the Thoracic Spine
7	Diseases of the Cervical Spine
8	Hip Diseases
9	Knee Diseases
10	Ankle/Foot Diseases
11	Diseases in the Shoulder Joint Complex
12	Diseases in the Elbow, Wrist and Hand
13	Musculoskeletal Diseases in Specific Patient Groups
14-15	Repetition

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, 2nd 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



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- 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^η 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*)

Assessment: Assessment of the theoretical part of Musculoskeletal Physiotherapy II takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 5 ECTS credits.



Module: Musculoskeletal Physiotherapy II (Lab)

Teaching period: 6th semester

Learning outcomes:

- i) To introduce students to the most important and commonly encountered musculoskeletal problems such as osteoarthritis, rheumatoid arthritis, joint replacements, postural asymmetries, several musculoskeletal syndromes etc., their pathology, pathogenesis, clinical picture, diagnosis, therapy options (operative and conservative) and prognosis.
- ii) To introduce students to the assessment of the musculoskeletal system.
- iii) To present the most common and important therapeutic methods for the musculoskeletal problems encountered. Emphasis is given on various therapeutic exercise techniques.
- iv) To improve the student's clinical reasoning skills in enabling them to apply the most appropriate intervention for each particular musculoskeletal dysfunction.

Teaching method:

- i) Clinical demonstrations by the tutors,
- ii) Clinical practice sessions in small groups.

Week by week schedule: The lab part of Musculoskeletal Physiotherapy II is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	Evaluation of Posture
2	Clinical Evaluation of Spinal Diseases
3	Basic Therapeutic Principles of Musculoskeletal Diseases - Postural Reeducation
	<i>1st Intermediate Clinical Evaluation</i>
4	Physiotherapy of the Lumbar Spine I
5	Physiotherapy of the Lumbar Spine II



Technological Educational Institute of Patras Greece
Department of Physiotherapy

6	Physiotherapy of the Cervical Spine
7	Physiotherapy of the Thoracic Spine
8	Physiotherapy for Hip Musculoskeletal Diseases
	<i>2nd Intermediate Clinical Evaluation</i>
9	Physiotherapy for Knee Diseases
10	Physiotherapy for Ankle/Foot Diseases
11	Physiotherapy for Diseases in the Shoulder Joint Complex
12	Physiotherapy for Diseases in the Elbow, Wrist, Hand
	<i>3rd Intermediate Clinical Evaluation</i>
13	Selected Therapeutic Techniques
14-15	Repetition

Textbooks/reference material:

In English:

- Grant R (1994), Physical Therapy of the Cervical and Thoracic Spine, 2nd Edition, Churchill Livingstone, New York
- Hertling D. (2006). Management of common musculoskeletal disorders: physical therapy principles and methods. Lippincott Williams & Wilkins, 4th ed. Philadelphia
- Jones M. A. Rivett, D. A. (2004). Clinical reasoning for manual therapists. Butterworth-Heinemann, Edinburgh
- Kesson M, Atkins E. (2005). Orthopaedic medicine: a practical approach, Elsevier/Butterworth-Heinemann, 2nd ed. Edinburgh
- Kisner C, Colby A (2002), Therapeutic Exercise. Foundations and Techniques, 4th Edition, F.A. Davis, Philadelphia
- Lederman E (1997), Fundamentals of Manual Therapy. Physiology, Neurology & Psychology, Churchill Livingstone, London
- Liebenson C. (2007). Rehabilitation of the spine: a practitioner's manual. Lippincott, 2nd ed., Williams & Wilkins Philadelphia
- Magee DJ (2002), Orthopaedic Physical Assessment, 4th Edition, W.B. Saunders, Philadelphia



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

- Makofsky H. W. (2003). Spinal manual therapy: an introduction to soft tissue mobilisation, spinal manipulation, therapeutic and home exercises, Slack, New Jersey
- Malanga G. A. Nadler S. (2006). Musculoskeletal physical examination: an evidence-based approach. Elsevier Mosby, Philadelphia

In Greek:

- Κοτζαηλίας Δ. (2008). *Φυσικοθεραπεία σε κακώσεις του μυοσκελετικού συστήματος*, University Press (*Physiotherapy in Injuries of the Musculoskeletal System*)
- Λαμπήρης 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^η 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*)

Assessment: Lab assessment of Musculoskeletal Physiotherapy II takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.



Module: Physiotherapy in Neural Diseases II (Theory)

Teaching period: 6th semester

Learning outcomes:

- i) Comprehension of the neurophysiological mechanism for injuries and diseases of the Central Nervous System,
- ii) Management of the kinetic and functional deficits for patients with injuries in their Central Nervous System,
- iii) Comprehension of the way Physiotherapy affects,
- iv) Critical skills development in order to choose therapeutic approach.

Teaching method:

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

Week by week schedule: The theoretical part of Physiotherapy in Neurological Diseases II is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Cortical Organization of Movement - Brain Plasticity
2	Balance I
3	Balance II
4	Upper Limb
5	Rising, Sitting and Walking
6	Injuries of the Spinal Cord
7	Diseases and Injuries of the Upper Motor Neuron
8	Basic Ganglia I
9	Basic Ganglia II
10	Multiple Sclerosis (MS)
11	Disorders of the Parencephalis



Technological Educational Institute of Patras Greece
Department of Physiotherapy

12	Cerebrovascular Accident (CVA - Stroke)
13	Brain Injuries
14-15	Repetition

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*)

Assessment: Assessment of the theoretical part of Physiotherapy in Neurological Diseases II takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 5 ECTS credits.

Module: Physiotherapy in Neural Diseases II (Lab)
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Teaching period: 6th semester

Learning outcomes:

- i) Comprehension of practical exercise in order to treat kinetic and functional disorders such as disorders of posture, balance and gait,
- ii) Comprehension of the muscle tone disorders management,
- iii) Comprehension of the way Physiotherapy affects,
- iv) Critical skills development in order to choose the appropriate therapeutic intervention according to the patient's clinical condition.

Teaching method:

- i) Demonstration of therapeutic intervention,
- ii) Use of evaluation scale for neurological patients,
- iii) Presentation of clinical examples,
- iv) Practical exercise by student groups.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week by week schedule: The lab part of Physiotherapy in Neurological Diseases II is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	Clinical Disorders of the Kinetic Function in Injuries of the Central Nervous System
2	Therapy Techniques - Positions
3	Motility Assessment Scale (MAS) from Supine to Prone Decubitus I
4	Motility Assessment Scale (MAS) from Supine to Prone Decubitus II
	<i>Intermediate Evaluation</i>
5	Sitting - Standing Position (MAS)
6	Gait (MAS)
7	Function of the Upper Limb - Hand (MAS)
	<i>Intermediate Evaluation</i>
8	Physiotherapeutic Approach
9	Physiotherapeutic Approach for the Trunk
10	Physiotherapeutic Approach of Gait
	<i>Intermediate Evaluation</i>
11	Spasticity - Paramorphias - Splints
12	Physiotherapy for Patients with Multiple Sclerosis (MS) - Parkinson
13	Physiotherapy for Patients with Injuries of the Spinal Cord
14-15	Repetition

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



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- 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*)

Assessment: Lab assessment of Physiotherapy in Neurological Diseases II takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part



Technological Educational Institute of Patras Greece
Department of Physiotherapy

and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.

Module: Biostatistics

Teaching period: 6th semester

Learning outcomes:

- i) Comprehension of the basic methods of statistical analysis,
- ii) Comprehension of the design of a research and data analysis,
- iii) Skills development in statistical analysis with computers.

Teaching method:

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

Week by week schedule: Biostatistics is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Introduction, Basic Concepts, Field of Statistics
2	Types of Research and Data
3	Probability Theory
4	Design and Protocols of Research
5	Types of Statistical Methodology in the Field of Health
6	Sample Research
7	Economy of Health and Statistical Inference
8	Descriptive Statistics, Use of PCs in Statistical Analysis
9	Basic Parameters and Distributions
10	Deductive Statistics
11	Analysis of Variation, Association, Association Factor



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

12	Statistical Tests, Statistical Analysis Software (SPSS 15.0, Statistica, Sigma Stat etc)
13	T-Student Test
14	X-Square Test
15	Examples - Applications of Statistics on Physiotherapy Studies

Textbooks/reference material:

In English:

- Rosner B. (2006). 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 , Eds
- Peat J, Barton B., Elliott E. (2005). Statistics Workbook for Evidence-based Health Care, Szklo , 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*)

Assessment: Assessment of Biostatistics takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. Students have to achieve a result 5 out of 10 or higher to consider the subject passed. The examination's duration is 2 hours. After passing the subject, the students are awarded with 3 ECTS credits.

Module: Clinical Practice II (Theory)
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Teaching period: 6th semester

Learning outcomes:

- Comprehension of the basic methods of clinical evaluation and rehabilitation for various musculoskeletal diseases,
- Comprehension of the evaluation and decision making thinking for the appropriate therapeutic approach,
- Verbal presentation skills development on some units,
- Discussions of scientific articles related to the subject.

Teaching method:

- Classic theoretical presentations,
- Project presentations by the students,
- Discussions with student groups assigned with a subject briefing,
- Analysis of scientific articles.

Week by week schedule: The theoretical part of Clinical Practice II is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week	Unit
1	Evaluation of the Orthopaedic Patient
2	Hip/Knee Arthroplasty, Possible Complications, Evaluation - Rehabilitation
3	Shoulder Arthroplasty
4	Mechanism of Pain - Healing Stages
5	Fractures of the Upper Limbs - Possible Surgical Rehabilitation (Internal/External Osteosynthesis) - Physiotherapeutic Treatment
6	Fractures of the Lower Limbs - Possible Surgical Rehabilitation - Physiotherapeutic Treatment
7	Fractures of the Spine and Pelvis - Conservative/Surgical Treatment - Physiotherapeutic Treatment
8	Interpretation - Significance of Lab Tests for an Orthopaedic Patient's Physiotherapist
9	Rheumatisms - Metabolic Diseases of the Bones - Physiotherapeutic Approach
10	Painful Syndromes of the Spine
11	Osfalgia - Differential Evaluation - Clinical Management
12	Injuries of Peripheral Nerves - Pathomechanics/Pathophysiology
13	Musclular, Capsuloligament and Tendon Injuries
14	Sacroiliac Joint
15	Principles of Functional Static/Dynamic Stabilization

Textbooks/reference material:

In English:

- Birch R., et al (1986) Peripheral Nerve Injuries. Journal of Bone and Joint Surgery, 68B, 2-8
- Boyling JD Palastanga N (1994) Grievess Modern Manual Therapy
- Braddorm R.L. (2002) Practical Guide to Musculoskeletal Disorders: Diagnosis and Rehabilitation. Butterworth – Heinmann



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- Bandy W. & Irion J. (1997) The Effect of Time and Frequency of Static Stretching on Flexibility of the Hamstring Muscles. *Physical Therapy* vol 77 no 10 1090-1096
- Brotzman, Brent Wilk Kevin E. (2003) *Clinical Orthopaedic Rehabilitation S*; Managing Editor, Kay Daugherty
- Bruce J. (1997) The Puzzle of Stretching for Sport, *Physiotherapy in Sport* vol: XX no:2: 14-15
- Butler DS (2000) *The Sensitive Nervous System*, Australia
- Frampton V. (1984) Management of Brachial Plexus Lesions. *Physiotherapy*, 70, 388-392
- Frampton V. (1986) Problems in Managing Reconstructive Surgery for Brachial Plexus Lesions Contrasted with Peripheral Nerve Lesions. *The Journal of Hand Therapy*, 11-B, 3-9
- Frampton V. (1996) Management of Pain in Brachial Plexus Lesions. *The Journal of Hand Therapy*, 339-343
- Jones Rivett (2004) *Clinical Reasoning for Manual Therapists*, Butterworth – Heinmann
- Hunter G. (2000) The Conservative Management of Achilles Tendinopathy, *Physical Therapy in Sport* 1, 6-14
- Magee DJ (2002) *Orthopaedic Physical Assessment*, Saunders
- Refshauge KM, Gass EM (2004) *Musculoskeletal Physiotherapy Clinical Science and Evidence Based Practice*
- Sudderland S. (1951) A Classification of Peripheral Nerve Injuries, Producing Loss of Function, *Brain*, 74, 491-516

In Greek:

- Κοτζαγλίας Δ. (2008). *Φυσικοθεραπεία σε κακώσεις του μυοσκελετικού συστήματος*, University Press (*Physiotherapy in Muscoloskeletal Injuries*)
- 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^η έκδ. University Studio Press, Θεσσαλονίκη (*Orthopaedics: Injuries and Diseases of the Musculoskeletal System*)



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- 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 Exercises. Basic Principles and Techniques)

Assessment: Clinical Practice II theoretical assessment takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 10 ECTS credits.

Module: Clinical Practice II (Lab)

Teaching period: 6th semester

Learning outcomes: During the semester, special attention is given to the following:

- i) Recognition, recording and evaluation of the patient's problem in particular and of the patient as a whole,
- ii) Study in depth the patient's psychology and environment,
- iii) Comprehension of a hospital's function procedures,
- iv) Collaboration of the students with various health professionals for a fast, safe and effective therapy.

Teaching method:

- i) Discussions with special physiotherapeutic content,
- ii) Analysis of scientific methods,
- iii) Case studies,



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- iv) Discussions on moral issues,
- v) Practice among the students.

Week by week schedule: Clinical Practice II lab part is summarised in 180 teaching hours, organised in 45 4-hour sessions (3 sessions per week), in which student attendance is mandatory.

Week	Unit
1	Acquaintance with the students, Familiarization with the Groups and with the Hospital
2	Teaching SOAP (Subjective Evaluation, Objective Findings, Assessment and Treatment Plan: Subjective Evaluation (Taking Medical History) among the Students
3	Subjective Evaluation among Students According to Patient Cards Objective Findings: Anatomic Analysis and Survey for all the Joints and the Body as a Whole, among the Students
4	Subjective Evaluation for Patients of the Hospital
5	Subjective Evaluation and Objective Findings for Patients with Total Arthroplasty of the Knee and Hip (Differences - Similarities)
6	SOAP for Patients with Total Arthroplasty of the Knee and Hip (Differentiation of the Treatment for Arthroplasty with or without Cement)
7	Subjective Evaluation and Objective Findings for Patients Stable or Unstable Fractures of the Femur)
8	SOAP for Patients with Stable or Unstable Fractures of the Femur, Surgical Treatment, Differentiation of Rehabilitation
9	SOAP for Patients with Fractures of the Humeral Head, Surgical Treatment Techniques with Emphasis on the Total Arthroplasty of the Shoulder
10	SOAP for Patients with Fractures of the Pelvic Floor
11	SOAP for Patients with Fractures of the Spine
12	SOAP for Patients with Ligament Injuries (Rupture of the Oblique Ligaments of the Ankle, Knee, Shoulder (Dislocations), Anterior and Rear Cruciate I



Technological Educational Institute of Patras Greece
Department of Physiotherapy

13	SOAP for Patients with Ligament Injuries (Rupture of the Oblique Ligaments of the Ankle, Knee, Shoulder (Dislocations), Anterior and Rear Cruciate II
14	SOAP for Children with Fractures of the Upper and Lower Limbs, Differentiation of the Treatment Compared to Adult ones
15	General Review of the Sessions, Questions, Conclusions, Discussions

Clinical education model: The majority of the clinical sessions are conducted at the University Hospital of Rio and specifically for Clinical Practice II in the Surgery, Orthopaedics, Rheumatologic and Pediatric Orthopaedics Clinics of the hospital. During the sessions, the students are given the opportunity to gain their knowledge and perform their practice on real patients of every age, gender, nationality and even with mental health problems. The students are divided in groups of 5 persons, which are supervised by a professor of the university and the chief of each clinic of the hospital at all times. Furthermore, some of the sessions are materialized at the local nursing home. In every case, the students are taught to educate the patients to perform some of the exercises themselves in order to maintain the effects of physiotherapy even after the end of the treatment, or in situations where the patient cannot exercise on his/her own, their family is taught to do so.

Textbooks/reference material:

In English:

- Birch R., et al (1986) Peripheral Nerve Injuries. Journal of Bone and Joint Surgery, 68B, 2-8
- Boyling JD Palastanga N (1994) Grievess Modern Manual Therapy
- Braddorm R.L. (2002) Practical Guide to Musculoskeletal Disorders: Diagnosis and Rehabilitation. Butterworth – Heinmann
- Bandy W. & Irion J. (1997) The Effect of Time and Frequency of Static Stretching on Flexibility of the Hamstring Muscles. Physical Therapy vol 77 no 10 1090-1096



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- Brotzman, Brent Wilk Kevin E. (2003) *Clinical Orthopaedic Rehabilitation S*; Managing Editor, Kay Daugherty
- Bruce J. (1997) *The Puzzle of Stretching for Sport, Physiotherapy in Sport* vol: XX no:2: 14-15
- Butler DS (2000) *The Sensitive Nervous System*, Australia
- Frampton V. (1984) *Management of Brachial Plexus Lesions. Physiotherapy*, 70, 388-392
- Frampton V. (1986) *Problems in Managing Reconstructive Surgery for Brachial Plexus Lesions Contrasted with Peripheral Nerve Lesions. The Journal of Hand Therapy*, 11-B, 3-9
- Frampton V. (1996) *Management of Pain in Brachial Plexus Lesions. The Journal of Hand Therapy*, 339-343
- Jones Rivett (2004) *Clinical Reasoning for Manual Therapists*, Butterworth – Heinmann
- Hunter G. (2000) *The Conservative Management of Achilles Tendinopathy, Physical Therapy in Sport* 1, 6-14
- Magee DJ (2002) *Orthopaedic Physical Assessment*, Saunders
- Refshaugee KM, Gass EM (2004) *Musculoskeletal Physiotherapy Clinical Science and Evidence Based Practice*
- Sudderland S. (1951) *A Classification of Peripheral Nerve Injuries, Producing Loss of Function, Brain*, 74, 491-516

In Greek:

- Κοτζαηλίας Δ. (2008). *Φυσικοθεραπεία σε κακώσεις του μυοσκελετικού συστήματος*, University Press (*Physiotherapy in Muscoloskeletal Injuries*)
- 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^η έκδ. University Studio Press, Θεσσαλονίκη (*Orthopaedics: Injuries and Diseases of the Musculoskeletal System*)
- Hoppenfeld S. (2000) *Ορθοπαιδική Νευρολογία* (Μετάφραση Αγγλικής Έκδοσης), Ιατρικές Εκδόσεις Παρισιάνου, Αθήνα (*Orthopaedic Neurology*)



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- Kisner C., Colby L.A. (2003) Θεραπευτικές Ασκήσεις. Βασικές Αρχές και Τεχνικές. (Μετάφραση Αγγλικής Έκδοσης) Ιατρικές Εκδόσεις Σιώκη, Θεσσαλονίκη (Therapeutic Exercises. Basic Principles and Techniques)

Assessment: Clinical Practice II lab assessment takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 10 ECTS credits.

Module: Assessment in Physiotherapy (Theory)

Teaching period: 7th semester

Learning outcomes: This subject has as target to make the students realize that physiotherapy is adjusted to the patient and not the opposite and the only way to achieve that is through physiotherapy assessment. With this method, it is possible to identify precisely the functional limitations and capability of the patient and define the treatment goals. Furthermore, it is a process that is repeated during the treatment, in order to assess the progress of the patient and the effectiveness of the program, as well as to make any corrective actions necessary. During the semester, students will have the opportunity to develop the skills and philosophy of physiotherapy assessment.

Teaching method:

- i) Power point presentations,



Technological Educational Institute of Patras Greece
Department of Physiotherapy

ii) Discussions on clinical applications included in the curriculum.

Week by week schedule: The theoretical part of Assessment in Physiotherapy is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Introduction to Physiotherapy Assessment. Basic Principles of S.O.A.P. * Assessment of Functional Deficit, Functional Inefficiency and Disability * Ranking Muscles in Phasic and Tonic
2	Pain Assessment: Characteristics of Pain, Association with Movements, Pain in Systaltic and Non-Systaltic Elements, Assessment Methods, Red Flag Findings
3	Movement Examination, Assessment of Movement Limitations, Causes of Hypomotility, Follicular Standard
4	Review, Key Points, Frequent Deviations from Normal, Palpation, Guide Points, Key Findings
5	Special Clinical and Functional Assessment Tests
6	Gait Assessment * Normal Gait, Analysis of Individual Phases * Characteristic Problems of Gait in Orthopaedic and Neurological Patients with Diseases of the Central of Peripheral Nervous System * Lab Methods for Gait Assessment
7	Balance and Proprioception Assessment * Static Dynamic Balance, Clinical and Lab Assessment * Characteristic Problems of Balance in Orthopaedic and Neurological Patients with Diseases of the Central of Peripheral Nervous System * Proprioceptive Parameters, Proprioceptive Function Methods of Assessment
8	Muscle Functional Capability Assessment: Clinical, Functional and Lab Tests



Technological Educational Institute of Patras Greece
Department of Physiotherapy

9	Neurological Diseases Assessment: Special Assessment of Mental Function of a Neurological Patient, Psychosomatic Effects, Rigidity, Spasticity
10	Assessment of Individual Anatomic Areas of the Human Body I: Upper Limbs
11	Assessment of Individual Anatomic Areas of the Human Body II: Lower Limbs
12	Assessment of Individual Anatomic Areas of the Human Body III: Spine
13	Special Issues of Physiotherapy Assessment: Special Approach for Athletes, the Elderly, Children
14	Validity and Reliability of the Assessment Methods
15	Repetition

Textbooks/reference material:

In English:

- Evaluation of Orthopaedic and Athletic Injuries, 2nd 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". OTP, 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.



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

- 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*)
- Hoppenfeld 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*)

Assessment: Assessment of the theoretical part of Assessment in Physiotherapy takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 5 ECTS credits.

Module: Assessment in Physiotherapy (Lab)
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Teaching period: 7th semester

Learning outcomes:

- i) Comprehension of the basic methods of physiotherapy assessment (clinical and laboratory) and skills development in using them,
- ii) Skills development in applying the appropriate methods of assessment for a wide range of pathological situations.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Teaching method:

- i) A short introduction to each individual lab session,
- ii) Demonstration of the required techniques for assessment,
- iii) Application of these techniques among the students,
- iv) Discussions in order to solve any possible problem or difficulty.

Week by week schedule: The lab part of Assessment in Physiotherapy is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	Methods of Review and Observation and their Significance in Physiotherapy Assessment
2	Methods and Techniques of Palpation
3	Gait Assessment
4	Range of Motion (ROM) Assessment
5	Muscle Power - Endurance Assessment
6	Proprioception and Neuromuscular Coordination Assessment
7	Nervous System Assessment
8	Cardiopneumatic System Assessment
9	Spine Assessment
10	Shoulder Girdle Physiotherapy Assessment
11	Elbow Joint Physiotherapy Assessment
12	Wrist and Hand Joints Physiotherapy Assessment
13	Hip Physiotherapy Assessment
14	Knee Joint Physiotherapy Assessment
15	Ankle Perarticipation and Foot Physiotherapy Assessment



Textbooks/reference material:

In English:

- Hooker D.N. (2001) Evaluation of the Lumbar Spine and Sacroiliac Joint: What, why and how? Paper presented at the National Convention, Los Angeles
- Hodges P.W. (2002) Science in Stability: Clinical Application to Assessment and Treatment of Segmental Spinal Stabilization for Low Back Pain. Course handbook and course notes, 29 September, Northeast seminars, Durham N.C.
- 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*)



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

- 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*)

Assessment: Assessment in Physiotherapy lab assessment takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.

Module: Research Methods in Physiotherapy (Theory)

Teaching period: 7th semester

Learning outcomes:

- i) Comprehension of the basic methods of research,
- ii) Comprehension of the evaluation and decision making thinking on a research study of an issue,
- iii) Skills development on writing and presenting a research.

Teaching method:

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



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week by week schedule: The theoretical part of Research Methods in Physiotherapy is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	What Research is
2	Research Problem, Cause and Research Questions
3	Types of Research
4	Articles Review
5	Ethics and Research Protocol
6	Quantification
7	Non-Experimental Study
8	Validity of a Research
9	Privacy
10	Experimental Research on Physiotherapy
11	Communication and Presentation of Research Results
12	Writing Articles and Communication of Research Studies
13	Research Examples on Physiotherapy
14	Writing a Thesis
15	Presentation of a Thesis Guide for the Physiotherapy Department of the University

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



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- 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)

Assessment: Assessment of the theoretical part of Research Methods in Physiotherapy takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 5 ECTS credits.



Module: Research Methods in Physiotherapy (Lab)

Teaching period: 7th semester

Learning outcomes:

- i) Comprehension of the basic methods of research,
- ii) Comprehension of the evaluation and decision making thinking on a research study of an issue,
- iii) Verbal presentation skills development.

Teaching method:

- i) Use of PCs and specific Ms Office applications,
- ii) Use of the International Bibliographical Sources Database of the USA, PubMed,
- iii) Design and conduction of scientific research through individual or group student projects.

Week by week schedule: The lab part of Research Methods in Physiotherapy is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.

Week	Unit
1	Using Editor as a Tool for Research and Writing Scientific Results
2	Using Spreadsheets as a Tool for Analysis and Process of Scientific Data - Results
3	Using Presentation Programs as a Tool for Presentation - Publicity of Scientific Results
4	<i>1st Intermediate Evaluation</i>
5	Conception of Research - Determination of the Subject - Modification of the Subject - Bibliographical Review
6	Determination of Research Goals - Axis of the Subject - Purpose of the Research Study
7	Designing the Tools to Conduct the Research - Questionnaire
8	<i>2nd Intermediate Evaluation</i>
9	Distribution of the Questionnaires



Technological Educational Institute of Patras Greece
Department of Physiotherapy

10	Collection of Results - Classification
11	Analysing - Processing the Results
12	<i>3rd Intermediate Evaluation</i>
13	Preparing to Write the Paper
14	Preparing to Present the Paper
15	Proofreading - Summary

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).



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

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)

Assessment: Research Methods in Physiotherapy lab assessment takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.

Module: Sports Physiotherapy (Theory)
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Teaching period: 7th semester

Learning outcomes: The main purpose of Sports Physiotherapy is to deepen the knowledge of the students in:

- i) The fundamental principles of evaluation and rehabilitation for sport injuries emphasizing in a) injury prevention through rehabilitation of the predisposing endogenous (functional asymmetries – imbalances) and exogenous (environmental) factors that can cause injuries and b) differentiation of the



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- therapeutic approach in rehabilitation of sport injuries by applying special progressive rehabilitation programs, using evidence – based approach,
- ii) Design rehabilitation programs for sport injuries using the appropriate, clinical and research, physiotherapeutic methods of rehabilitation.

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.

Week by week schedule: The theoretical part of Sports Physiotherapy is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Introduction - Types of Injuries
2	Reasoning of Injuries
3	Sport Injuries of the Shoulder
4	Sport Injuries of the Elbow - Wrist
5	Sport Injuries of the Trunk
6	Sport Injuries of the Hip
7	Sport Injuries of the Knee
8	Sport Injuries of the Ankle
9	Physiotherapeutic Evaluation of Sport Injuries
10	Sport Injuries Rehabilitation I: Physiotherapy in Acute Stage of Sport Injuries. Stretching
11	Sport Injuries Rehabilitation II: Strengthening (concentric, eccentric), proprioception and plyometric training
12	Sport Injuries Rehabilitation III: Bracing, Taping
13	Progressive Rehabilitation for Trunk Injuries
14	Progressive Rehabilitation for Upper and Lower Limb Injuries



Textbooks/reference material:

In English:

- Wade R.M. (2009). Sports Injuries: A Unique Guide to Self-Diagnosis and Rehabilitation, Churchill Livingstone.
- Norris Christopher M. (2004). Sports Injuries: Diagnosis and Management, Butterworth-Heinemann
- 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*)



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

Assessment: Assessment of the theoretical part of Sports Physiotherapy takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 5 ECTS credits.

Module: Sports Physiotherapy (Lab)

Teaching period: 7th semester

Learning outcomes: After the end of the semester, the students should be able to:

- i) Plan and apply specialized (progressive) programs for prevention (Taping, balancing musculoskeletal asymmetries) and rehabilitation (special kinesiotherapy – sports stretching, modalities) of sport injuries,
- ii) Conduct functional tests to assess sport injuries,
- iii) Contribute in sport injuries prevention by comprehending the endogenous and exogenous factors of sport injuries.

Teaching method:

- i) Demonstration of sport physiotherapy techniques by the teaching professor,
- ii) Practical exercise in student groups, supervised by the professor.

Week by week schedule: The lab part of Sports Physiotherapy is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week	Unit
1	Introduction - Types of Injuries
2	Reasoning of Injuries
3	Sport Injuries of the Shoulder
4	Sport Injuries of the Elbow - Wrist
5	Sport Injuries of the Trunk
6	Sport Injuries of the Hip
7	Sport Injuries of the Knee
8	Sport Injuries of the Ankle
9	Physiotherapeutic Evaluation of Sport Injuries
10	Sport Injuries Rehabilitation I: Physiotherapy in Acute Stage of Sport Injuries. Sport Stretching
11	Sport Injuries Rehabilitation II: Strengthening (concentric, eccentric), proprioception, plyometric training.
12	Sport Injuries Rehabilitation III: Bracing, taping
13	Progressive Rehabilitation for Trunk Injuries
14	Progressive Rehabilitation for Upper and Lower Limb Injuries
15	Hydrotherapy in Sports

Textbooks/reference material:

In English:

- Wade R.M. (2009). Sports Injuries: A Unique Guide to Self-Diagnosis and Rehabilitation, Churchill Livingstone.
- Norris Christopher M. (2004). Sports Injuries: Diagnosis and Management, Butterworth-Heinemann
- 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



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- 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*)

Assessment: Sports Physiotherapy lab assessment takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.



Module: Clinical Practice III (Theory)

Teaching period: 7th semester

Learning outcomes:

- i) Comprehension of the somatesthetic and kinetic systems function,
- ii) Comprehension of the pathogenetic mechanisms of specific neurological diseases (Parkinson, MS, etc),
- iii) Comprehension of methods for mobilisation, functional reeducation, psychological approach and rehabilitation for patients with neurological diseases in general.

Teaching method:

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

Week by week schedule: The theoretical part of Clinical Practice III is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.

Week	Unit
1	Introduction to the Central Nervous System
2	Neuron Model - Tranquility Potential - Action Potential - Neuromuscular Synapsis
3	Plasticity of the Central Nervous System - Perception Creation - Introduction to the Somatesthetic System
4	Somatesthetic System
5	Kinetic System - Muscles, Muscular Receptors as Cortical Representation
6	Spinal Reflexes
7	The Role of Parencephalis
8	The Role of the Basic Ganglia



Technological Educational Institute of Patras Greece
Department of Physiotherapy

9	Rehabilitation for Patients with Cerebrovascular Accident (CVA/Stroke)
10	Rehabilitation for Patients with Aphasia - Hemiplegic Shoulder
11	Rehabilitation for Patients with Traumatic Brain Injuries
12	Rehabilitation for Patients with Parkinson
13	Rehabilitation for Patients with MS
14	Rehabilitation for Patients with Spinal Cord Trauma
15	Rehabilitation for Patients with Parencephalous Ataxia - Myasthenia - Myopathies

Textbooks/reference material:

In English:

- Butler A.J., Wolf S.L. (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 (87): 6
- Canning C.G., Alison J.A., Allen N.E., Groeller H. (1997). Parkinson's disease; an investigation of exercise capacity respiratory function and gait. *Archives Physical Medicine Rehabilitation*, 78: 233-241
- Cakit D.B., Saracoglou M., Genc H., Erdem R.H., Inan L. (2007). The effects of incremental speed-dependent treadmill training on postural instability and fear of falling in Parkinson's disease. *Clinical Rehabilitation*, 21: 698-705
- Cudo E., Leurgans S., Goetz G.C. (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*, 10: 504-510
- Del Olmo F.M., Arias P., Furio C.M., Pozo M.A., 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*, 12: 155–164
- Draganski B., May A. (2008). Training-induced structural changes in the adult human brain *Behavioural Brain Research* 192: 137–142



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- Kandel E.R. (2000). Principles of Neural Science. Publisher: Appleton & Lange
- Lennon S., Stokes M. (2008). Pocket book of neurological physiotherapy. Churchill Livingstone
- Madhu K. (2008). Brain development: anatomy, connectivity, adaptive plasticity, and toxicity. *Metabolism Clinical and Experimental* 57 (Suppl 2): S2–S5
- Purves D., Brannon E., Cabeza R., Huettel A.S., Labar K., Platt M., Woldorf M. (2008)
- Cognitive neuroscience. Publisher Sinauer Associates Inc,US
- Strokes M. (2004). Neurological Physiotherapy. Mosby

In Greek:

- Carr J., Shepherd R. (2004) *Νευρολογική Αποκατάσταση*. (Μετάφραση Αγγλικής Έκδοσης), Επιστημονικές Εκδόσεις Παρισιάνου, Αθήνα (*Neurological Rehabilitation*)

Assessment: Assessment of Clinical Practice's III theoretical part takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 10 ECTS credits.



Module: Clinical Practice III (Lab)

Teaching period: 7th semester

Learning outcomes:

- i) Educating the students on clinical physiotherapeutic assessment as well as selection and application of the rehabilitation on patients with neurological diseases,
- ii) Educating the students to choose the appropriate physiotherapeutic intervention for every age,
- iii) Active participation of the students in scientific groups as those of a hospital.

Teaching method:

- iv) Theoretical presentations,
- v) Student project presentations,
- vi) Discussions with student groups assigned with an issue briefing,
- vii) Daily rounds to the hospital's wards with discussions and practical exercise of the students on neurological patients (always supervised).

Week by week schedule: The lab part of Clinical Practice III is summarised in 180 teaching hours, organised in 45 4-hour sessions, (3 sessions per week). Student attendance is mandatory for all sessions.

Week	Unit
1	Medical History and Assessment of the Neurological Patient
2	Central Nervous System Anatomy Elements, Peripheral Nervous System Anatomy Elements, Parencephalis and its Part, Pyramidal and Extrapyramidal System
3	Reflexes, Sensation (Superficial, Deep)
4	Motility Assessment, Shift and Mobilize Hemiplegic Patient
5	Standing and Gait of Hemiplegic Patient
6	Gait Disorders and Pathological Types of Gait



Technological Educational Institute of Patras Greece
Department of Physiotherapy

7	Ischemic and Hemorrhagic Cerebrovascular Accident (CVA/Stroke) - Physiotherapeutic Approach
8	Traumatic Brain Injury - Physiotherapeutic Approach
9	Parkinson - Physiotherapeutic Approach
10	Multiple Sclerosis (MS) - Physiotherapeutic Approach
11	Injuries of the Spinal Cord (Hemiplegia, Paraplegia, Tetraplegia) - Physiotherapeutic Approach
12	Cerebral Paralysis - Physiotherapeutic Approach
13	Disorders of the Peripheral Nervous System (Myopathies, Myasthenias) - Physiotherapeutic Approach
14	Injuries of the Peripheral Nerves and Polyneuropathies - Physiotherapeutic Approach
15	Neoplasia of the Central Nervous System - Physiotherapeutic Approach

Clinical education model: The majority of the clinical sessions are conducted at the University Hospital of Rio and specifically for Clinical Practice III in the Neurological and Neurosurgery Clinics of the hospital. During the sessions, the students are given the opportunity to gain their knowledge and perform their practice on real patients of every age, gender, nationality and even with mental health problems. The students are divided in groups of 5 persons, which are supervised by a professor of the university and the chief of each clinic of the hospital at all times. Furthermore, some of the sessions are materialized at the local nursing home. In every case, the students are taught to educate the patients to perform some of the exercises themselves in order to maintain the effects of physiotherapy even after the end of the treatment, or in situations where the patient cannot exercise on his/her own, their family is taught to do so.

Textbooks/reference material:

In English:

- Butler A.J., Wolf S.L. (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 (87): 6



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- Canning C.G., Alison J.A., Allen N.E., Groeller H. (1997). Parkinson's disease; an investigation of exercise capacity respiratory function and gait. *Archives Physical Medicine Rehabilitation*, 78: 233-241
- Cakit D.B., Saracoglou M., Genc H., Erdem R.H., Inan L. (2007). The effects of incremental speed-dependent treadmill training on postural instability and fear of falling in Parkinson's disease. *Clinical Rehabilitation*, 21: 698-705
- Cudo E., Leurgans S., Goetz G.C. (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*, 10: 504-510
- Del Olmo F.M., Arias P., Furio C.M., Pozo M.A., 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*, 12: 155–164
- Draganski B., May A. (2008). Training-induced structural changes in the adult human brain *Behavioural Brain Research* 192: 137–142
- Kandel E.R. (2000). *Principles of Neural Science*. Publisher: Appleton & Lange
- Lennon S., Stokes M. (2008). *Pocket book of neurological physiotherapy*. Churchill Livingstone
- Madhu K. (2008). Brain development: anatomy, connectivity, adaptive plasticity, and toxicity. *Metabolism Clinical and Experimental* 57 (Suppl 2): S2–S5
- Purves D., Brannon E., Cabeza R., Huettel A.S., Labar K., Platt M., Woldorf M. (2008)
- *Cognitive neuroscience*. Publisher Sinauer Associates Inc, US
- Stokes M. (2004). *Neurological Physiotherapy*. Mosby

In Greek:

- Carr J., Shepherd R. (2004) *Νευρολογική Αποκατάσταση*. (Μετάφραση Αγγλικής Έκδοσης), Επιστημονικές Εκδόσεις Παρισιάνου, Αθήνα (*Neurological Rehabilitation*)



Assessment: Clinical Practice III lab assessment takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 10 ECTS credits.

Module: Physiotherapy Specific to Age Groups (Theory)

Teaching period: 7th semester

Learning outcomes:

- i) Study of pathological situations on different age groups from infancy to adulthood,
- ii) Comprehension of physiotherapeutic assessment and rehabilitation for every pathological situation,
- iii) Update on international research and bibliography referring to pathological cases of various age groups.

Teaching method:

- i) Lectures on the subject units,
- ii) Optional for the students: Writing a short review on Greek and foreign literature for the effects of physiotherapy on several pathological situations for different age groups.

Week by week schedule: The theoretical part of Physiotherapy Specific to Age Groups is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is essential.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week	Unit
1	Congenital Muscle Torticollis
2	Congenital Hip Dislocation
3	Congenital Clubfoot
4	Muscle Dystrophies
5	Spina Bifida and Meningomyelocele
6	Juvenile Rheumatoid Arthritis
7	Ankylosing Spondylarthritis
8	Osteochondritis
9	Scoliosis
10	Knee Patellofemoral Articulation Disorders I
11	Knee Patellofemoral Articulation Disorders II
12	Low back pain - Bach school
13	Osteoporosis
14	Fibromyalgia
15	Urinary Incontinence in Women

Textbooks/reference material:

In English:

- Baltaci G., Ozer H. & Tunay V.B. (2004), Rehabilitation of Avulsion Fracture of the Tibial Tuberosity following Osgood-Schlatter Disease. *Knee Surgery, Sports Traumatology, Arthroscopy*, 12 (2), 115-8
- Braun J., Baraliakos X., Godolias G. & Bohm H. (2005), Therapy of Ankylosing Spondylitis – A Review. Part I: Conventional Medical Treatment and Surgical Therapy. *Scandinavian Journal of Rheumatology*, 34 (2), 97-108
- Bols E.M.J., Berghmans B.C.M., Hendriks E.J.M., de Bie R.A., Melenhorst J., van Gemert W.G. & Baeten C.G.M.I. (2007), A Randomized Physiotherapy Trial in Patients with Fecal Incontinence: Design of the PhysioFIT- Study. *BMC Public Health*, 7, 355
- Casserley – Feeney S.N., Bury G., Daly L. & Hurley D.A. (2008), Physiotherapy for Low Back Pain: Differences between Public and Private



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Healthcare Sectors in Ireland – A Retrospective Survey. *Manual Therapy*, 13 (5), 441-9

- Chen R.C., Gordon J.E., Luhmann S.J., Schoenecker P.L. & Dobbs M.B. (2007), A New Dynamic Foot Abduction Orthosis for Clubfoot Treatment. *Journal Pediatrics Orthopaedics*, 27 (5), 522-8
- Cosma D., Vasilescu D. & Valeanu M. (2007), Comparative Results of the Conservative Treatment in Clubfoot by two Different Protocols. *Journal Pediatrics Orthopaedics*, 16 (5), 317-21
- Dagfinrud H., Kvien T.K. & Hagen K.B. (2005), The Cochrane Review of Physiotherapy Interventions for Ankylosing Spondylitis. *The Journal of Rheumatology*, 32 (10), 1899-906
- Do T.T. (2006), Congenital Muscular Torticollis: Current Concepts and Review of Treatment. *Current Opinion in Pediatrics*, 18 (1), 26-9
- Heffelfinger A.K., Koop J.I., Fastenau P.S., Brei T.J., Conant L., Katzenstein J., Cashin S.E. & Sawin K.J. (2008), The Relationship of Neurophysiological Functioning to Adaptation Outcome in Adolescents with Spina Bifida, *Journal of the International Neurophysiological Society*, 14 (5), 793-804
- Ferreira M.L., Ferreira P.H., Latimer J., Herbert R.D., Hodges P.W., Jennings M.D., Maher C.G. & Refshauge K.M. (2007), Comparison of General Exercise, Motor Control Exercise and Spinal Manipulative Therapy for Chronic Low Back Pain: A Randomized Trial. *Pain*, 131 (1-2), 31-7

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 Exercises, Basic Principles and Techniques)*



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

Assessment: Assessment of the theoretical part of Physiotherapy Specific to Age Groups takes place in the end of the semester and has 2 examination periods. In case somebody fails in the 1st exam, they may take the 2nd. If they fail twice, they have to attend the module/subject again. The examination students take is consisted of open and closed type questions. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 5 ECTS credits.

Module: Physiotherapy Specific to Age Groups (Lab)

Teaching period: 7th semester

Learning outcomes:

- i) Comprehension of the physiotherapeutic assessment and rehabilitation for every pathological situation,
- ii) Comprehension of the assessment, consideration, organisation and decision making thinking of the appropriate therapeutic approach,
- iii) Update on international research and bibliography referring to pathological cases of various age groups.

Teaching method:

- i) Theoretical presentations on each unit,
- ii) Demonstration of the clinical methods of assessment and rehabilitation,
- iii) Organizing student groups to design and present clinical rehabilitation for pathological situations.

Week by week schedule: The lab part of Physiotherapy Specific to Age Groups is summarised in 30 teaching hours, organised in 15 2-hour sessions, in which student attendance is mandatory.



Technological Educational Institute of Patras Greece
Department of Physiotherapy

Week	Unit
1	Congenital Muscle Torticollis
2	Congenital Hip Dislocation
3	Congenital Clubfoot
4	Becker Muscle Dystrophies
5	Duchenne Muscle Dystrophies
6	Spina Bifida and Meningomyelocele
7	Juvenile Rheumatoid Arthritis
8	Ankylosing Spondylarthritis
9	Osteochondritis
10	Scoliosis
11	Knee Patellofemoral Articulation Disorders I
12	Knee Patellofemoral Articulation Disorders II
13	Low back pain - Back-school
14	Osteoporosis
15	Fibromyalgia

Textbooks/reference material:

In English:

- Baltaci G., Ozer H. & Tunay V.B. (2004), Rehabilitation of Avulsion Fracture of the Tibial Tuberosity following Osgood-Schlatter Disease. *Knee Surgery, Sports Traumatology, Arthroscopy*, 12 (2), 115-8
- Braun J., Baraliakos X., Godolias G. & Bohm H. (2005), Therapy of Ankylosing Spondylitis – A Review. Part I: Conventional Medical Treatment and Surgical Therapy. *Scandinavian Journal of Rheumatology*, 34 (2), 97-108
- Bols E.M.J., Berghmans B.C.M., Hendriks E.J.M., de Bie R.A., Melenhorst J., van Gemert W.G. & Baeten C.G.M.I. (2007), A Randomized Physiotherapy Trial in Patients with Fecal Incontinence: Design of the PhysioFIT- Study. *BMC Public Health*, 7, 355



Technological Educational Institute of Patras Greece
Department of Physiotherapy

- Casserley – Feeney S.N., Bury G., Daly L. & Hurley D.A. (2008), Physiotherapy for Low Back Pain: Differences between Public and Private Healthcare Sectors in Ireland – A Retrospective Survey. *Manual Therapy*, 13 (5), 441-9
- Chen R.C., Gordon J.E., Luhmann S.J., Schoenecker P.L. & Dobbs M.B. (2007), A New Dynamic Foot Abduction Orthosis for Clubfoot Treatment. *Journal Pediatrics Orthopaedics*, 27 (5), 522-8
- Cosma D., Vasilescu D. & Valeanu M. (2007), Comparative Results of the Conservative Treatment in Clubfoot by two Different Protocols. *Journal Pediatrics Orthopaedics*, 16 (5), 317-21
- Dagfinrud H., Kvien T.K. & Hagen K.B. (2005), The Cochrane Review of Physiotherapy Interventions for Ankylosing Spondylitis. *The Journal of Rheumatology*, 32 (10), 1899-906
- Do T.T. (2006), Congenital Muscular Torticollis: Current Concepts and Review of Treatment. *Current Opinion in Pediatrics*, 18 (1), 26-9
- Heffelfinger A.K., Koop J.I., Fastenau P.S., Brei T.J., Conant L., Katzenstein J., Cashin S.E. & Sawin K.J. (2008), The Relationship of Neurophysiological Functioning to Adaptation Outcome in Adolescents with Spina Bifida, *Journal of the International Neurophysiological Society*, 14 (5), 793-804
- Ferreira M.L., Ferreira P.H., Latimer J., Herbert R.D., Hodges P.W., Jennings M.D., Maher C.G. & Refshauge K.M. (2007), Comparison of General Exercise, Motor Control Exercise and Spinal Manipulative Therapy for Chronic Low Back Pain: A Randomized Trial. *Pain*, 131 (1-2), 31-7

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 Exercises, Basic Principles and Techniques)*



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

Assessment: Physiotherapy Specific to Age Groups lab assessment takes place on a daily basis with three more formal exam-type assessments which comprise of practical demonstration of techniques and methods from students. Except from the daily evaluation of students and the intermediate evaluation, a final examination takes place at the end of the semester. This examination is conducted by the teaching professors personally with the students divided in pairs, in order to recreate the skills they have obtained during the semester on each other. The final grade of the subject derives from the average of the theoretical and laboratory part and has to be 5 out of 10 or higher. 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 15-30 minutes. After passing the theoretical and laboratory part, the students are awarded with 5 ECTS credits.

8th Semester:

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(Final-Year Dissertation)*, which has as purpose to stimulate critical thinking and develop their analytical and synthetic ability by elaborating this study.

<p>Thesis (Final-Year Dissertation)</p>
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The Thesis is the final and most mature effort of the student in order to complete a scientifically documented text that deepens the knowledge in a specific field of Physiotherapy. By having acquired a certain level of knowledge and experiences in the theoretical and practical aspects of Physiotherapy, 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 Thesis gives the student the opportunity to:



**Technological Educational Institute of Patras Greece
Department of Physiotherapy**

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

❖ Thesis Assignment Procedure

Professors: The professors that take responsibility in supervising the thesis implementation are the ones who provide educational work to the Department in each academic year, priority given to those who have a postgraduate degree. Each professor takes responsibility for no more than 3 thesis subjects per semester (6 per academic year). The professor has the obligation to notify the Department for the theses in progress in order to prevent supervising more subjects than the predefined.

❖ Preconditions for application

The students that can submit an application for Thesis assignment are the ones that are experiencing the 8th 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.



❖ Elaboration Time Schedule

The minimum elaboration time is 3 months and the maximum is 6 calendar months since the notification of the supervising professor. After this time limit, the student must provide a written justification for the delay, signed by the supervising professor, which can possibly lead to change of subject or/and supervisor.

❖ ECTS

The ECTS for the Thesis are 10 and are calculated for the student in the first semester that he/she is assigned with the Thesis. In case of failure or change of subject due to student's responsibility, he/she has to resubmit for a Thesis, therefore the ECTS are calculated again for one semester.

❖ 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. If 3 months pass without any communication from the student, the supervisor reports to the secretariat and the student is invited to justify in writing his/her delay. If the justification is considered insufficient, the supervising professor has the right to cancel the cooperation.

Plagiarism: Plagiarism is strictly prohibited and the penalty is defined by the Council of the Institute. As plagiarism is considered the reproduction of parts from other students' projects either Theses or projects on the individual modules, as well as copying parts from books or scientific articles. Every idea, thought or finding that belongs to another writer, must be modified/restated (the text) and the name of the original writer must be cited.

References: Every Thesis must present completely the subject, based as much as possible on scientific evidence. Such references are published articles in



Technological Educational Institute of Patras Greece
Department of Physiotherapy

international range magazines that are refereed. Less valid are considered the national range magazines, especially the ones that are not refereed. The most reliable and useful scientific source is the international database PubMed (<http://www.ncbi.nlm.nih.gov/pubmed/>) which includes a wide range of scientific magazines that cover medical issues, as well as issues on all the rest health sciences (e.g. Physiotherapy, Speech Therapy, Occupational Therapy, Nursing etc).

❖ 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.

For research Theses, methodology is rated in addition.



❖ Thesis Structure

The Thesis must be conceptually divided in two basic parts, the General and Special for a more complete cover of the individual aspects of the subjects in separate chapters, with special attention to their consistency. In the general part, the nature of a disease (causes, mechanisms, pathophysiology, anatomical anomalies) must be referred, followed by the medical treatment (surgery techniques, medication, diagnosis). In the special part, which is the most important, the physiotherapeutic treatment must be included, as a general component and as particularities. In this part, clear directions must be given and the scientifically most acceptable approach must be documented.

The ratio between the first and the second part must benefit the second. It is recommended to use the ratio 1:3 between first and second (meaning that the special part should be 3 times as big as the general. The Thesis must not be larger than 120 pages as a whole, while the main text must be 8,000 – 12,000 words (boards and references are excluded from word counting).

One of the most essential elements of a successful Thesis is the presentation of critical and analytic thinking in the text. This means that the student through the review of bibliographical research sources, must be able to evaluate if each study has examined the right parameters, if it has used correct methodology, if the persons/patients sample used was representative of the subject investigated, if the evaluation means used are valid and reliable, if the findings were correctly interpreted etc. A thorough analysis in depth that includes the above and not only, has as precondition a very good knowledge of the subject investigated, a complete and careful review of the bibliography and research methodology comprehension.



Practical Placement

The Practical Placement takes place after the 7th semester of studies and only if the student has been successfully examined in all the Specialty Courses. The Practical Placement has as result the application of the theoretical modules. The student comes in contact with the subject of the Physiotherapy science and faces cases in all the clinics of the hospital, changing department every month. This way the student career is completed. Furthermore, the student learns to follow and behave according to hierarchy, as well as to abide by the moral rules as stated by the Greek Society of Physiotherapists.

The student can choose up to 6 public or private hospitals, which cooperate with the TEI, in order of priority. After that, he/she has to wait for the hospital to reply if his/her application is accepted and can be informed about the result from the TEI secretariat. Once the hiring from the hospital is completed, the TEI designates a Supervising Professor, who is responsible for the student, consulting for his/her daily performance and makes a monthly report on his/her progress.

The hospital designates the Chief of Physiotherapy as supervisor of the Employment Provider, who comes in contact with the student on a daily basis in the work field and checks on his/her performance and progress. Furthermore, the Hospital Supervisor sends a weekly report to the TEI on:

- i) The time that the student arrives and if he/she abides by the working hours,
- ii) The theoretical knowledge of the student on the cases he/she deals with and the efficiency of his/her methods,
- iii) The student's cooperation with colleagues and the rest of the hospital's staff,
- iv) The way the student deals with the patients' psychology,
- v) The student's progress.

The student is obliged to fill in the Practice Book as a diary and report his/her daily programme. Additionally, he/she must report weekly and monthly references



Technological Educational Institute of Patras Greece
Department of Physiotherapy

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 Practice Book, the student has to complete the Technical Report.

The Technical Report is a project that follows the same concept as the Thesis, at least 50 pages long (4,000 – 5,000 words). 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 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 to 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.

After the end of the Practical Placement, a questionnaire (Skills and Behavior Evaluation of the Student from the Hospital Supervisor during the Practical Placement) is provided to the Hospital Supervisor and another to the student (Hospital Evaluation Questionnaire for the Students). The student has to submit the Practice Book, which is evaluated by the Supervising Professor, as well as the Technical Report to the TEI and report 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 Professor is obligatory, since the validation of the Practical Placement relies also on the evaluation of the student's presentation. These conferences are conducted the day after the respective conferences that entail Theses presentations of the Department.

Finally, the Supervising Professor 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.