



UNICAMILLUS

Degree Course in Physiotherapy

INTEGRATED COURSE: INTERDISCIPLINARY CLINICAL SCIENCES 1

CFU: 6

SSD: MED/30, MED/31, MED/33, MED/34, MED/36

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MODULE: PHYSICAL AND REHABILITATION MEDICINE

CFU: 2

SSD: MED/34

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MODULE: EYE DISEASE

CFU: 1

SSD: MED/30

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MODULE: LOCOMOTIVE SYSTEM DISEASE

CFU: 1

SSD: MED/33

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MODULE: DIAGNOSTIC IMAGING AND RADIOTHERAPY

CFU: 1

SSD: MED/36

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MODULE: OTOLARINGOLOGY

CFU: 1

SSD: MED/31

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PREREQUISITES

PHYSICAL AND REHABILITATION MEDICINE

Although there are no preparatory prerequisites, basic concepts on rehabilitative methods and physical therapies are required, as well as elements of pathophysiology of the main neurological and orthopedic pathologies treated.

EYE DISEASE

The course has no prerequisites. The knowledge of basic principles on the visual system would be supportive for understanding the topics covered.

LOCOMOTIVE SYSTEM DISEASE

Musculoskeletal anatomy knowledge



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DIAGNOSTIC IMAGING AND RADIOTHERAPY

Knowledge of the general features of Human Anatomy and Physiology is preferred but not mandatory

OTOLARINGOLOGY

Basic concepts of anatomy and physiology of the acoustic-vestibular system and air-digestive pathways are required, with particular reference to acute, chronic and degenerative diseases.

LEARNING OBJECTIVES

PHYSICAL AND REHABILITATION MEDICINE

Teaching objectives are to provide students with the knowledge related to rehabilitation processes in the sequelae and outcomes of main neurological and orthopedic diseases, in the context of medical diagnosis and multidisciplinary work.

EYE DISEASE

The primary goals of the course include the basic principles of visual anatomy and physiology helpful in understanding the relevant aspects of ophthalmic disorders.

LOCOMOTIVE SYSTEM DISEASE

Introduction to basic clinical and therapeutic concepts of the most common orthopaedic pathologies in the pediatric age. Recognition of the most common skeletal deformities during growth period.

DIAGNOSTIC IMAGING AND RADIOTHERAPY

The Student will be able to acquire the information and diagnostic and / or therapeutic indications of the equipment used in Diagnostic Imaging, Nuclear Medicine and Radiotherapy, both with Ionizing Radiation (IR) and with Non Ionizing Radiation (NIR). In addition, notions will be provided regarding radiation protection in patients and workers.

OTOLARINGOLOGY

The understanding of the pathophysiological mechanisms underlying the alterations in balance and the production mechanisms of speech and swallowing are essential objectives. These objectives will be achieved through face-to-face lectures, seminars and interactive teaching activities, designed to facilitate learning and improve the ability to deal with and solve the main pathological and degenerative diseases.



PHYSICAL AND REHABILITATION MEDICINE

At the end of the teaching course, the student should be able to evaluate, as part of the individual methods, physical therapy to be used and the possible adoption of orthoses and aids.

Knowledge and understanding

At the end of this teaching course, the student should be able to formulate the rehabilitation project in some of the main neurological diseases (Parkinson's disease, stroke, multiple sclerosis, etc) and orthopedic diseases (hip and knee replacements, shoulder and elbow injuries, tibio-tarsal).

Applying knowledge and understanding

At the end of the teaching course the student will be able to:

- Use the knowledge acquired for the in-depth study of aspects related to the formulation of rehabilitation projects to which the student will dedicate himself in the professional activity of physiotherapist

Communication skills

At the end of the teaching the student must know:

- Use specific scientific terminology appropriately.

Making judgements

At the end of the teaching course the student must know:

- carry out rough assessments relating to rehabilitation treatments in the pathologies treated.

EYE DISEASE

Students should demonstrate the comprehension of all the basic concepts of the ocular anatomy and the visual mechanism and recognize the characteristics of the different ophthalmic disorders and visual defects, including possible implications in the locomotor system.

LOCOMOTIVE SYSTEM DISEASE

Knowledge and understanding

At the end of this teaching the student will need:

- to know the major orthopedic joint pathologies described;
- to know the clinical and instrumental diagnostic criteria;
- to know the most commonly used treatment options;

Applying knowledge and understanding

Al termine dell'insegnamento lo studente sarà in grado di:

- Utilizzare le conoscenze acquisite per l'approfondimento autonomo di aspetti relativi al campo specifico al quale lo studente si dedicherà nell'ambito della attività professionale;



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Communication skills

At the end of the course the student will be able to:

- Use the knowledge acquired to independently investigate the aspects related to the specific field in which the student will be involved in his professional activity

DIAGNOSTIC IMAGING AND RADIOTHERAPY

At the end of this course the Student will have to demonstrate knowledge of the diagnostic and / or therapeutic indications of the equipment used in Diagnostic Imaging, Nuclear Medicine and Radiotherapy. He will have to know, in the osteo-articular field, the indications of Non-Ionizing and Ionizing Radiation equipment.

In addition, he will have to know radiation protection to protect patients and workers.

Communication skills

Finally, the Student has to use the scientific terminology adequately

Making judgements

At the end of the course, the Student will be able to make general assessments relating to the topics covered.

OTOLARINGOLOGY

Knowledge and understanding

At the end of this teaching the student will have to know:

- Anatomy and physiology of the central and peripheral vestibular system
- Describe the main methods of clinical analysis of the peripheral vestibular system
- Knowing the main pathological frameworks of the peripheral vestibular system
- Knowing the principles of physical rehabilitation of vestibular pathologies
- Principles of prosthetic rehabilitation of the peripheral vestibular system
- Know the anatomy of the oral, larynx and the air-digestive tract
- Know the physiology of voice production and swallowing
- Know the main clinical analysis tests of the air-digestive system
- Knowing and describing the main pathological and degenerative frameworks of the air-digestive system
- Know the rehabilitative methods of swallowing

Applying knowledge and understanding

At the end of the teaching, the student will be able to:

- Use the knowledge acquired for the autonomous deepening of aspects related to the specific field to which the student will devote himself in the field of professional activity;

Communication skills

At the end of the teaching, the student will need to know:

- Use specific scientific terminology appropriately.

Making judgements

At the end of the teaching, the student will need to know:

- general assessments of the topics covered.



PHYSICAL AND REHABILITATION MEDICINE

Rehabilitation program in patients with Parkinson's disease
Rehabilitation program in the patient with ischemic and hemorrhagic Stroke
Rehabilitation program in the patient with Multiple Sclerosis
Rehabilitation program in the patient with Motor Neuron disease
Rehabilitation program in the patient with Alzheimer's disease
Rehabilitation program in the patient with hereditary and acquired Polyneuropathies
Rehabilitation program in the patient with Myasthenia Gravis
Rehabilitation program in knee injuries
Rehabilitation program in hip injuries
Rehabilitation program in tibio-tarsal injuries
Rehabilitation program in shoulder and elbow injuries

EYE DISEASE

Elements of anatomy and physiology

Fibrous tunics: Sclera - Cornea
Vascular tunics: Choroid - Ciliary body - Iris
Nerve tunics: Retina
Crystalline lens and vitreous
Anterior chamber, posterior chamber, aqueous humor
Optic Nerve and Optic Pathways
Eyelids and Conjunctiva
Lacrimal system: Gland and Lacrimal Tracts
Extrinsic Ocular Muscles
Orbit

Pathophysiological optics

The eye from an optical point of view
Elements of optics, prisms and lenses
Vision defects (myopia, hyperopia, astigmatism, presbyopia)
Visual acuity measurement (charts, decimals, diopters, retinoscopy (schiascopy), refractometer)

Pathology and Clinic

Eyelid diseases (chalazion, hordeolum, ectropion, entropion, ptosis)
Diseases of the lacrimal drainage system (occlusion, dacryocystitis)
Diseases of the conjunctiva (conjunctivitis, pinguecula, pterygium)
Diseases of the cornea (keratitis, corneal ulcers, keratoconus)
Diseases of the sclera (scleritis)
Diseases of the lens (cataracts)
Diseases of the vitreous
Diseases of the uvea (uveitis, tumors)
Diseases of the retina (angiomatosis, diabetic retinopathy, Hypertensive retinopathy, venous and arterial occlusions, inherited retinal degeneration, age-related macular degenerations, retinal detachment, retinoblastoma.
Neuro-ophthalmology (papilledema, optic neuritis, chiasmatic and retrochiasmatic syndrome).



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Glaucoma (humor aqueous circulation, tonometry, visual field, optic nerve alterations)
Concomitant and paralytic strabismus (amblyopia, esotropia, exotropia)

Semeiotics and instrumental examinations

Physical examination (biomicroscopy, ophthalmoscopy)
Corneal evaluation (ophthalmometry, topography, endothelial microsc.)
Glaucoma and optical pathways (perimetry, ERG, VEP)
Color sense tests (Ishihara plates, Farnsworth test)
Retina imaging (Fluorescein angiography + ICGA, OCT, Ultrasound)

LOCOMOTIVE SYSTEM DISEASE

- Pathologies of the major joints such as:
 - Shoulder
 - Elbow
 - Spine
 - Hip
 - Knee
 - Ankle
- Surgical and conservative treatment focused on the rehab
- Rehab concepts based on type of surgical treatment
- Knowledge of the rehab based on the surgical treatment

DIAGNOSTIC IMAGING AND RADIOTHERAPY

- **Diagnostic Imaging and Radiotherapy Equipment:**

Physical foundations, equipment technicians and main clinical indications: Ultrasound (US); analogic/digital radiology (RX); Computerized Bone Mineralometry (CBM); Mammography (MX); Computed Tomography (CT); Magnetic Resonance (MR); Nuclear Medicine (NM); Hybrid equipment (PET/CT); Interventional Radiology (IR); Radiotherapy (RT).

- **Radiations:**

Natural and artificial sources of radiation. Non Ionizing Radiation (NIR) and Ionizing Radiation (IR). Radioactivity and radioactive decay. Biological effects of ionizing radiation on the human species; Tissue Radiosensitivity Scale; stochastic, deterministic and genetic effects.

- **Radiation Protection:**

The Ethical Principles of Radioprotection; Dosimetric quantities and Dosimetry; Physical Surveillance; Medical Surveillance; Devices for Protection against Ionizing Radiation (individual, collective, environmental); Irradiation, Contamination and Decontamination. Radioprotection in fertile age and pregnancy.

- **Clinical indications of the Diagnostic Imaging in the study of the Spine and great Joints.**



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OTOLARINGOLOGY

Vestibular system:

Anatomy and physiology of the auditory and vestibular system, immuno-mediated diseases of the inner ear associated with vertigo, pathophysiology of the optical-kinetic system and the visuo-vestibule-oculomotor reflex, elttro-nistagmography, caloric and instrumental vestibular evaluation, the potential evoked myogenic vestibular (VEMP's) clinical applications, assessment of the patient with dizzying-postural disorders the bed-side examination, clinic of peripheral disorders of balancewith Associated audiological symptoms, positional paroxysm dizziness from labyrinthitis, vertigo and barotrauma, cervical whiplash and visuo-vestibular system, rehabilitative therapy in vestibular system pathology peripheral

Dysphagia:

Terminology of disphagy, pathophysiological components in swallowing disorders, disphagy and other disorders of swallowing, aspiration, etiology of disphagy, mecanic and neurological disphagy, clinical of the disphagoic patient, procedures diagnostics, primary pathological frameworks in paediatric and adultage, disphagy in the elderly, voice and disphagia, treatment of disphagia.texts uncamillus

COURSE STRUCTURE

PHYSICAL AND REHABILITATION MEDICINE

The teaching is structured in 20 hours of frontal teaching, divided into lectures of 2 or 3 hours according to the academic calendar.

EYE DISEASE

The course consists of a total of 10-hours frontal lessons.

LOCOMOTIVE SYSTEM DIDEASE

The Teaching is structured in 10 hours of frontal teaching, divided into lessons of 2 or 3 hours according to the academic calendar.

DIAGNOSTIC IMAGING AND RADIOTHERAPY

This teaching programme is made up of 10 hours of frontal/interactive lessons of 3 and 4 hours.

OTOLARINGOLOGY

The Teaching is structured in 10 hours of frontal teaching, divided into lessons of 2 or 4 hours according to the academic calendar. The frontal teaching includes theoretical lectures and supplementary seminars on the topics covered.



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COURSE GRADE DETERMINATION INTEGRATED COURSE

For the Orthopedics, Physical Medicine, Diagnostic Imaging and Otorhinolaryngology modules, knowledge will be assessed by written tests. Students will have to answer multiple choice question on the topics covered during lectures. Only the Eye Diseases module will be assessed orally.

During the assessment, Professors verify the Student's ability to apply knowledge acquired during lectures. The evaluation will focus on : making judgements, communication skills and learning skills according to Dublins' Descriptors.

Scores obtained in individual modules will contribute to the determination of the final grade; The minimum score to pass is 18/30.

OPTIONAL ACTIVITIES

PHYSICAL AND REHABILITATION MEDICINE

n/a

EYE DISEASE

Optional activities are not included in the present course. However, student reception would be available during the provided office hours

LOCOMOTIVE SYSTEM DISEASES

No additional activities are provided.

OTOLARINGOLOGY

In addition to the educational activity, the student will be given the opportunity to participate in Seminars, Research Internships, Departmental Internships and Monographic Courses. The subjects of the activities are not subject to examination. The acquisition of allocated hours takes place only with a mandatory frequency of 100% and is expected to be eligible.

READING MATERIALS

PHYSICAL AND REHABILITATION MEDICINE

Materials provided by the teacher

EYE DISEASE

lecture notes

LOCOMOTIVE SYSTEM DIDEASE

Review of Orthopaedics VI edition; Miller M.D., Thompson S.R, Hart J.A; Elsevier

DIAGNOSTIC IMAGING AND RADIOTHERAPY

- **The topics of the lessons will be provided to students in PDF and / or PowerPoint**



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- It is recommended for **self-study** to visit the site:

https://www.physio-pedia.com/Diagnostic_Imaging_for_Physical_Therapists

OTOLARINGOLOGY

Vertigo and Dizziness Common Complaints Dieterich, Strupp, Springer London Limited 2005

Clinic Of LabyrinthS Peripherals Official Report XCII National Congress Enzo Mora

Dysphagia diagnosis and Treatment Olle Ekberg Springer London

Dysphagia Otolaryngologic Clinics of North America volume 31 number 3