



UNICAMILLUS

## Degree Course in Physiotherapy

### **INTEGRATED COURSE: INTERDISCIPLINARY CLINICAL SCIENCES**

**CFU: 6**

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

**COURSE COORDINATOR: GIOVANNI MORONE**

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MODULE: PHYSICAL AND REHABILITATION MEDICINE

CFU: 2

SSD: MED/34

PROFESSOR: PROF. GIOVANNI MORONE

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MODULE: EYE DISEASE

CFU: 1

SSD: MED/30

PROFESSOR: PROF. Vito Fenicia

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PROF.SSA Serena Fragiotta

MODULE: LOCOMOTIVE SYSTEM DISEASE

CFU: 1

SSD: MED/33

PROFESSOR : COSIMO TUDISCO

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MODULE: DIAGNOSTIC IMAGING AND RADIOTHERAPY

CFU: 1

SSD: MED/36

PROFESSOR: PROF. MARIANO SCAGLIONE

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MODULE: OTOLARINGOLOGY

CFU: 1

SSD: MED/31

PROFESSOR: PROF.FRANCESCO RONCHETTI

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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*



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## 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 DIDEASE

*Although there are no preparatory prerequisites, good knowledge of human anatomy, joint physiology and kinematics applied to the musculoskeletal system are necessary. Knowledge of important notions on calcium/phosphorus methabolism, connective tissue histology and osteo-methabolic processes (osteo-genetic and osteo-resorption) are also requested.*

## 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

*The objectives of the teaching course are to provide students with the knowledge related to the individual rehabilitation project in the main orthopedic and neurological pathologies. In particular, the objective of the course is the definition by the student of the individual rehabilitation project in a wide range of disability from main neurological and orthopedic pathologies, in the framwork of medical diagnosis and multidisciplinary.*

### 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 DIDEASE

*Learning objective is the knowledge of common orthopaedic diseases, of traumatic lesions also these that involve an emergency treatment.  
Recognition of symptoms and signs associated with guidelines associated with*



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orthopaedic and traumatology; knowledge and correct use of imaging in orthopaedic and traumatology (X-rays, ultrasounds, magnetic resonance, computerized tomography, scintigraphy).

The knowledge of the orthopaedic and traumatology pathogenesis is mandatory to obtain a complete training on the diagnosis and treatment of musculoskeletal diseases and lesions.

These objectives will be achieved through lectures aimed at improving the ability to address and resolve the main issues of Orthopedic and Traumatology field.

## DIAGNOSTIC IMAGING AND RADIOTHERAPY

- To know the basic principles of physics of medical imaging
- To get the basic features "ABCS" methodology for the evaluation of plain films and MR images
- To understand the correlation between imaging features and pain and/or functional impairment

These objectives will be reached through frontal/interactive lessons to gather learning and improve the «solving problem» ability/correlation between pain and functional impairment using diagnostic imaging

## 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.

## **LEARNING OUTCOMES**

### PHYSICAL AND REHABILITATION MEDICINE

At the end of the teaching course the student must be able to evaluate the possible rehabilitative methods and the physical therapy to be used as well as the possible adoption of orthoses and aids within the framework of the individual rehabilitation project drawn up in a multidisciplinary manner.

#### **knowledge and understanding**

At the end of this teaching course the student will be able to formulate the rehabilitation project in some of the main neurological and orthopedic diseases such as parkinson's disease, stroke, low back pain, arthritis and shoulder and tibio-tarsal tendon injuries.



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## **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 DIDEASE

### **Knowledge and understanding**

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

- The main signs and symptoms and laboratory parameters in orthopedic diseases
- The main signs and symptoms in the traumatic musculoskeletal lesions
- The imaging techniques in orthopedics and traumatology
- The principal criteria of the classification of ortopedic diseases and traumatologic lesions
- the management of pharmacological, rehabilitative and thermal therapeutic strategies in orthopedic diseases and musculoskeletal lesions.

### **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;



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## **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.**

## DIAGNOSTIC IMAGING AND RADIOTHERAPY

Finally, the student has to :

- know the basic principles of physics of medical imaging
- get the basic features "ABCS" for the evaluation of plain films and MR images
- understand the correlation between imaging features and pain and/or functional impairment

## **Communication skills**

Finally, the student has to :

- use the scientific terminology adequately

## **Making judgements**

Finally, the student has to :

- Make a general assessment of the abovementioned issues

## 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



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- 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.

## **COURSE SYLLABUS**

### PHYSICAL AND REHABILITATION MEDICINE

Rehabilitation program in patients with Parkinson's disease

- Patient rehabilitation program with stroke (subacute phase)
- Patient rehabilitation program with stroke (chronic phase)
- Patient rehabilitation program with low back pain
- Patient rehabilitation program with arthrosis
- Rehabilitation program in muscle injuries
- Rehabilitation program in the tibio-tarsal tendon lesions
- Rehabilitation program in tendon shoulder 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



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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).  
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 DIDEASE

Musculoskeletal system anatomy and histology, orthopedic terminology.  
Traumatology. Major joints musculoskeletal traumatology: general concepts, physiopathology, clinical signs, instrumental examinations, therapeutic indications, early



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and late complications.

Osteoporosis and fragility fractures. Principal pediatric orthopedic diseases. Upper limb and lower limb principal sports traumatology diseases, arthroscopic general concepts, cartilage lesions general concepts.

Orthopedics. Spine, upper limb and lower limb principal orthopedic diseases, degenerative osteoarthritis and principal degenerative joint diseases: general concepts, physiopathology, clinical signs, instrumental examinations, therapeutic indications, early and late complications .

## DIAGNOSTIC IMAGING AND RADIOTHERAPY

- The Physics of Medical Imaging
- Systematic Analysis of plain films and MR images Using ABCs
- The spine and great joints
- Correlation between imaging and pain and/or functional impairment

## 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 optokinetic system and the visuo-vestibulo-oculomotor reflex, electronystagmography, caloric and instrumental vestibular evaluation, the potential evoked myogenic vestibular (VEMP's) clinical applications, assessment of the patient with dizzying-postural disorders the bedside examination, clinic of peripheral disorders of balance with associated audiological symptoms, positional paroxysmal dizziness from labyrinthitis, vertigo and barotrauma, cervical whiplash and visuo-vestibular system, rehabilitative therapy in vestibular system pathology peripheral

### Dysphagia:

Terminology of dysphagia, pathophysiological components in swallowing disorders, dysphagia and other disorders of swallowing, aspiration, etiology of dysphagia, mechanical and neurological dysphagia, clinical of the dysphagic patient, procedures diagnostics, primary pathological frameworks in paediatric and adulthood, dysphagia in the elderly, voice and dysphagia, treatment of dysphagia. texts uncamillus



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## **COURSE STRUCTURE**

### PHYSICAL AND REHABILITATION MEDICINE

The teaching is structured in 20 hours of frontal teaching, divided into lessons of 2 or 4 hours according to the academic calendar. The teaching course will include theoretical lessons and group exercises on the topics covered.

### EYE DISEASE

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

### LOCOMOTIVE SYSTEM DISEASE

*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

The Teaching is structured in 10 hours of frontal teaching, divided into lessons of 3 and 4 hours according to the academic calendar. The frontal teaching includes theoretical lectures and supplementary seminars on the topics covered.

### 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.*

## **COURSE GRADE DETERMINATION INTEGRATED COURSE**

### PHYSICAL AND REHABILITATION MEDICINE

*The learning assessment will be carried out according to a written exam that includes questions with multiple answers (n. 20) and an open question on the elaboration of a rehabilitation project (10 points). Votes in 30 and laude. Time 1 hour and 30 minutes.*

### EYE DISEASE

*The final exam consists of multiple choices test followed by an oral examination*



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## DIAGNOSTIC IMAGING AND RADIOTHERAPY

*The verification of the preparation of the students will take place with a written exam followed by an oral test. The written test will consist of 30 questions with multiple choice answers, for each exact answer will be assigned a point. The final score of the written test will be given by the sum of the partial scores assigned to each correctly answered question. To enter the oral exam, the student must have scored at least a minimum of 18 points. During the oral test, the Examining Commission will assess the Student's ability to apply the knowledge and ensure that the skills are adequate to support and solve microbiological problems. In addition, the results of the evaluation of the evaluation (making judgments), communication skills and learning skills will be assessed as indicated in the Dublin descriptors.*

## LOCOMOTIVE SYSTEM DISEASES

*The verification of the preparation of the students will take place through an oral test. During the oral examination the Examining Commission will assess the ability of the Student to apply the knowledge and will ensure that the skills are adequate to support and solve problems of a orthopaedic and traumatology nature. The following will also be assessed: making judgments, communication skills (communication skills) and learning skills (learning skills) as indicated in the Dublin descriptors.*

## OTOLARINGOLOGY

*The verification of the preparation of the students will take place with a written exam followed by an oral test. The written test will consist of 30 questions with multiple choice answers, for each exact answer will be assigned a point. The final score of the written test will be given by the sum of the partial scores assigned to each correctly answered question. To enter the oral exam, the student must have scored at least a minimum of 18 points. During the oral test, the Examining Commission will assess the Student's ability to apply the knowledge and ensure that the skills are adequate to support and solve microbiological problems. In addition, the results of the evaluation of the evaluation (making judgments), communication skills and learning skills will be assessed as indicated in the Dublin descriptors.*

## **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*



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## 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

*Clinical Orthopaedic Rehabilitation. Kevin E. Wilk; S. Brent Brotzman.  
Elsevier - Health Sciences Division*

### EYE DISEASE

lecture notes

### LOCOMOTIVE SYSTEM DISEASE

- Mark D Miller, Jennifer A Hart, John M. MacKnight .Essential Orthopaedics. Saunders Elsevier (2010)
- Jon C. Thompson: Netter's Concise Orthopaedic Anatomy, Elsevier (2016)

### DIAGNOSTIC IMAGING AND RADIOTHERAPY

James Swain, Kenneth W. Bush  
Diagnostic Imaging for Physical Therapists  
Saunders, Elsevier

## 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



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