



Degree Programme in Physiotherapy

Academic Year 2026 / 2027

INTEGRATED COURSE (I.C.): INTERDISCIPLINARY CLINICAL SCIENCES

NUMBER OF CFU (ECTS credits): 6

SSD (Academic Discipline Code): MEDS-17/A, MEDS-18/A, MEDS-19/A, MEDS-19/B, MEDS-22/A

COORDINATOR OF THE I.C.: DOMENICO SCHIANO LOMORIELLO

E-MAIL: domenico.schianolomoriello@unicamillus.org

MODULE 1: EYE DISEASES

NUMBER OF CFU: 1

SSD: MEDS-17/A

LECTURER: Schiano Lomoriello Domenico

e-mail: domenico.schianolomoriello@unicamillus.org

MODULE 2: LOCOMOTIVE DISEASES

NUMBER OF CFU: 1

SSD: MEDS-19/A

LECTURER: Gabriele Bove

e-mail: gabriele.bove@unicamillus.org

MODULE 3: PHYSICAL AND REHABILITATION MEDICINE

NUMBER OF CFU: 2

SSD: MEDS-19/B

LECTURER: Serena Capobianco

e-mail: serena.capobianco@unicamillus.org

MODULE 4: DIAGNOSTIC IMAGING AND RADIOTHERAPY

NUMBER OF CFU: 1

SSD: MEDS-22/A

LECTURER: Renato Argirò

e-mail: renato.argirò@unicamillus.org

MODULO 5: OTOLARINGOLOGY

NUMBER OF CFU: 1

SSD: MEDS-18/A

LECTURER: Carlotta Muneretto

e-mail: carlotta.muneretto@unicamillus.org

PREREQUISITE COURSES

None required.

PREREQUISITES

Although there are no preparatory prerequisites, basic concepts of anatomy and physiology of the locomotor system, the visual system, the acoustic-vestibular system and the aerial-digestive tract are necessary, with particular reference to acute, chronic and degenerative inflammatory processes.. Basic concepts on rehabilitative methods and physical therapies are required, as well as elements of pathophysiology of the main neurological and orthopedic pathologies treated.

LEARNING OBJECTIVES

The teaching objectives are to provide students with:

- the knowledge related to rehabilitation processes in the sequele and outcomes of main neurological and orthopedic diseases, in the context of medical diagnosis and multidisciplinary work.
- the basic principles of visual anatomy and physiology helpful in understanding the relevant aspects of ophthalmic disorders.
- The knowledge of the most common orthopaedic pathologies during growth period
- the physical principles of ionizing radiation, ultrasound and electro-magnetic waves and their possible applications, with particular attention to their use in the medical field. The student will learn the physical principles, the mechanisms of interaction of the same with living matter.
- The understanding of the pathophysiological mechanisms underlying the alterations in balance and the production mechanisms of speech and swallowing.

EXPECTED LEARNING OUTCOMES**DD 1: Knowledge and understanding**

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 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).
- 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.
- Know the described joint diseases, the clinical and instrumental diagnostic criteria as well as the treatment options most used today
- know the physical principles of ionizing radiation, ultrasound and electro-magnetic waves
- Describe the main applications of ionizing radiation, ultrasound and electromagnetic waves in the clinical field

- Know the various diagnostic imaging methods
- Know the principles of interactions of ionizing radiation with living matter.
- Know the principles of ultrasound interactions with living matter.
- Know the principles of interactions of electromagnetic waves with living matter.
- Know the applications of the various imaging methods and their correct use in the clinical field
- Know the 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

DD 2: 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.

DD3: Making judgements

At the end of the teaching, the student will need to know general assessments of the topics covered.

DD4: Communication skills

At the end of the teaching, the student will need to know how to use specific scientific terminology appropriately.

DD5: Learning skills

The student will have acquired skills and learning methods suitable for deepening and improving their skills also through consultation of scientific literature.

SYLLABUS

Syllabus MODULE 1: Eye Diseases

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).

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)

Syllabus MODULE 2: Locomotive Diseases

- 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

Syllabus MODULE 3: 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

Syllabus MODULE 4: Diagnostic Imaging and Radiotherapy

Electromagnetic radiation and X-ray production.
Corpuscular theory of radiation
Discovery of X-rays
Interaction of X-rays with matter
Radiant and Radiographic Image. Intrinsic characteristics
Equipment in radiodiagnostics
Ultrasound Equipment
MRI equipment
Radiotherapy equipment

Syllabus MODULO 5: Otolaringology**Vestibular and Auditory System**

- Anatomy of the middle and inner ear; physiology of the auditory and vestibular systems
- Clinical presentation of the main peripheral vestibular disorders (benign paroxysmal positional vertigo, vestibular neuritis, Ménière's syndrome), vertigo and barotrauma; evaluation of patients with vertigo and postural disturbances (bedside examination, caloric and instrumental vestibular tests, rehabilitative therapy in peripheral vestibular pathology)
- Clinical management of the principal otologic disorders (otitis, hearing loss and deafness): diagnostic work-up, therapeutic and rehabilitative considerations

Upper Aerodigestive System

- Anatomy and physiology of the pharynx, larynx, trachea and oral cavity; physiological principles of swallowing, phonation and respiration
- Swallowing disorders: aetiology of dysphagia (mechanical and neurological), clinical presentation of the dysphagic patient, diagnostic procedures, rehabilitative techniques
- Voice disorders: aetiology of dysphonia (organic and non-organic), management of dysphonias, vocal fold paralysis
- Tracheostomy: indications, devices and management of the tracheostomised patient
- Principles of swallowing and phonation rehabilitation in patients undergoing major oncologic surgery

COURSE STRUCTURE

The Teaching is structured in 60 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. Attendance is compulsory for at least 75% of the total hours of all the courses of the integrated course.

COURSE GRADE DETERMINATION

The exam for the integrated course “Interdisciplinary Clinical Sciences” consists of a written test for the modules Locomotive Diseases and Diagnostic Imaging and Radiotherapy; an oral test for the modules Eye Diseases, Physical and Rehabilitation Medicine and Otorhinolaryngology.

The learning tests are aimed at ascertaining the acquisition of the expected knowledge and skills, without the help of notes or books. The evaluation parameters used will be the specific knowledge of the topic, together with the ability to discursively organize the knowledge, the critical approach and the competence in the use of specialized language. The unit of measurement used will be a vote expressed out of thirty.

The exam is considered passed with a minimum grade of 18/30 in all subjects.

Fail	Significant gaps and/or inaccuracies in knowledge and understanding of the topics; limited analytical and synthesis skills; argumentation absent or frequently incorrect.
18–20	Barely sufficient knowledge and understanding of the topics, with possible imperfections; sufficient analytical, synthesis, and judgement skills.
21–23	Routine knowledge of the topics; correct analytical and synthesis skills with coherent logical argumentation.
24–26	Fair knowledge and understanding of the topics; good analytical and synthesis skills; rigorously expressed argumentation.
27–29	Complete knowledge of the topics; considerable analytical and synthesis skills; good independent judgement.
30–30L	Excellent level of knowledge and understanding. Considerable analytical, synthesis, and independent judgement skills. Original argumentation expressed with full command of specialized terminology.

In accordance with current legislation and with the guidance of the University's inclusion services, students with certified disabilities or specific learning disorders are entitled to the compensatory tools and measures provided for (e.g. additional time, concept maps, equivalent tests). Adaptations of the examination are agreed between the lecturer, the student and the competent office, without prejudice to the equivalence of the learning outcomes assessed.

OPTIONAL ACTIVITIES

None required.

READING MATERIALS**Texts MODULE 1: Eye Diseases**

Lecture notes.

Texts MODULE 2: Locomotive Diseases

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

Texts MODULE 3: Physical and Rehabilitation Medicine

Materials provided by the teacher.

Texts MODULE 4: Diagnostic Imaging and Radiotherapy

- Elementi in tecnologia in Diagnostica Per Immagini (R. Passariello)
- "Anatomia Radiologica Weir -Abrahams
- Muscoloskeletal MRI, 2nd ed. – C.Helms, N. Major, M. Anderson, P.E. Kaplan and R. Dussault, eds. Saunders; 2009

Texts MODULE 5: 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