



## **Degree Programme in Physiotherapy**

*Academic Year 2026 / 2027*

**INTEGRATED COURSE (I.C.): VASCULAR REHABILITATION**

**NUMBER OF CFU (ECTS credits): 6**

**SSD (Academic Discipline Code): MEDS-26/C**

**COORDINATOR OF THE I.C.:** Prof. Giulia Coccozza

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**MODULE 1: RESPIRATORY REHABILITATION**

**NUMBER OF CFU (ECTS credits): 2**

**SSD (Academic Discipline Code): MEDS-26/C**

**LECTURER:** Prof. Massimo Mencarini

**e-mail:** massimo.mencarini@unicamillus.org

**MODULE 2: CARDIAC REHABILITATION**

**NUMBER OF CFU (ECTS credits): 2**

**SSD (Academic Discipline Code): MEDS-26/C**

**LECTURER:** Prof. Giulia Coccozza

**e-mail:** giulia.coccozza@unicamillus.org

**MODULE 3: VASCULAR REHABILITATION**

**NUMBER OF CFU (ECTS credits): 2**

**SSD (Academic Discipline Code): MEDS-26/C**

**LECTURER:** Prof. Fabio Romaldini

**e-mail:** fabio.romaldini@unicamillus.org

### **PREREQUISITE COURSES**

None required.

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Although there are no preparatory prerequisites, notions of physiology, pathophysiology and anatomy in the respiratory field are necessary. It is also necessary to have a good basic knowledge of human anatomy and physiology in particular of the cardiovascular system.

## **LEARNING OBJECTIVES**

Knowledge of the principles, evaluation and treatment techniques in respiratory and cardiovascular rehabilitation are essential objectives; protocols, indications and contraindications of vascular rehabilitation, as well as knowledge and management of pain, edema and scars.

The student will also learn the main manual lymphatic drainage techniques.

These objectives will be achieved through lectures and practical exercises designed to facilitate learning and improve the ability to address and resolve the main questions in this field.

## **EXPECTED LEARNING OUTCOMES**

### **DD 1: Knowledge and understanding**

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

- Recognize the main obstructive and restrictive respiratory diseases.
- Knowing how to use assessment techniques in the field of respiratory physiotherapy
- Knowing how to use the treatment techniques and technical tools of respiratory rehabilitation.
- Understand the indications for rehabilitation treatment by following the most accredited shared indications and guidelines, where present.
- Acquire skills in the physiotherapy assessment and treatment of acute and chronic respiratory dysfunctions originating from obstructive and / or restrictive pathologies
- Identify and administrate vascular risk factors
- Acquire skills in physiotherapeutic taking care of lympho- venous patients
- Understand the indications for rehabilitation treatment by following the most accredited shared indications and guidelines, where present
- Manage the main consequences after a surgical intervention: pain, oedema, scars
- Know the principles complex decongestive therapy
- Detailed and critical understanding of the pathophysiology of heart disease and its implications for exercise training.
- Plan, deliver and evaluate exercise prescription
- Evaluate critically the literature examining risk factors management
- Undertake a risk assessment
- Demonstrate an understanding of the methodology and interpretation of various tests
- Demonstrate a detailed and critical understanding of the psychosocial issues

### **DD 2: Applying knowledge and understanding**

At the end of the course the student will be able to use the knowledge acquired for the independent study of aspects relating to the specific field to which the student will dedicate himself as part of his professional activity.

### **DD3: Making judgements**

At the end of the course, the student should carry out general assessments relating to the topics covered.

### **DD4: Communication skills**

At the end of the course, the student should use specific scientific terminology appropriately.

## **DD5: Learning skills**

The student will have acquired skills and learning methods suitable for deepening and improving their knowledge and skills in the field of rehabilitation sciences, also through consultation of scientific literature.

## **SYLLABUS**

### **Syllabus MODULE 1: RESPIRATORY REHABILITATION**

- Hints of history of Respiratory Rehabilitation.
- Functional evaluation of the patient with respiratory diseases (Physical examination of the chest, 6-minute Walking Test, Detection of dyspnoea, Oximetry and blood gas analysis, administration of questionnaires)
- Bronchial unblocking techniques (Chest Physical Therapy, ELTGOL, Autogenic Drainage, PEP-Mask, Active Cycle of Respiratory Techniques (ACBT))
- Interventions on the pump system and respiratory coordination (Relaxation, Stretching, Nose-blow coordination, Evidence-based practice)
- Oxygen therapy and mechanical ventilation

### **Syllabus MODULE 2: CARDIAC REHABILITATION**

- **Introduction to Cardiac Rehabilitation**

Anatomy and physiology of the heart

Common cardiac pathologies (myocardial infarction, heart failure, arrhythmias, etc.)

- **Basic principles of cardiologic rehabilitation**

Evaluation of the Cardiology Patient

Clinical and functional assessment of the cardiac patient

Exercise tests and their interpretation

Monitoring and assessment of vital parameters

- **Cardiology Rehabilitation Interventions**

Therapeutic exercise for cardiac patients

Breathing and relaxation techniques

Customized rehabilitation programs

- **Multidisciplinary management**

Collaboration with cardiologists, nurses, and other health professionals

Patient and family education

Secondary prevention strategies

### **Syllabus MODULE 3: VASCULAR REHABILITATION**

The lymphatic system: anatomy, physiology, and pathophysiology of edema

- General principles, guidelines and scientific evidence of lymph-venous rehabilitation
- Introduction to decongestive therapy of edema (Manual drainage techniques, multicomponent bandaging, therapeutic exercise, abdominal-diaphragmatic breathing, adjuvant therapies)
- Scar treatment
- Definitive elastic garments and braces

## **COURSE STRUCTURE**

The teaching is structured in 60 hours of frontal teaching, divided into 2, 4 or 5 hour lessons based on the academic calendar. Attendance is compulsory for at least 75% of the total hours of all the courses of the integrated course.

## **COURSE GRADE DETERMINATION**

The verification of the students' preparation will take place through a written preparatory test for access to the oral one. During the written and oral exam, the examining commission will evaluate the student's ability to apply the knowledge and will ensure that the skills are adequate to support and solve problems in the field of respiratory and cardiological rehabilitation. The following will also be assessed: making judgements, communication skills and learning skills as indicated in the Dublin descriptors.

For the attribution of the final grade, the following criteria will be adopted:

|               |                                                                                                                                                                                                      |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fail</b>   | Significant gaps and/or inaccuracies in knowledge and understanding of the topics; limited analytical and synthesis skills; argumentation absent or frequently incorrect.                            |
| <b>18–20</b>  | Barely sufficient knowledge and understanding of the topics, with possible imperfections; sufficient analytical, synthesis, and judgement skills.                                                    |
| <b>21–23</b>  | Routine knowledge of the topics; correct analytical and synthesis skills with coherent logical argumentation.                                                                                        |
| <b>24–26</b>  | Fair knowledge and understanding of the topics; good analytical and synthesis skills; rigorously expressed argumentation.                                                                            |
| <b>27–29</b>  | Complete knowledge of the topics; considerable analytical and synthesis skills; good independent judgement.                                                                                          |
| <b>30–30L</b> | 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: RESPIRATORY REHABILITATION**

- Clini E, Holland AE, Pitta F, Troosters T. Textbook of pulmonary rehabilitation. Springer International Publishing. 2018
- Lazzeri M. Esame clinico e valutazione in riabilitazione respiratoria. Elsevier. 2006

### **Texts MODULE 2: CARDIAC REHABILITATION**

- Riabilitazione Cardiologica Alfonso Galati, Carlo Vigorito Edi. Ermes 2012
- BACPR Cardiovascular Prevention and Rehabilitation Jennifer Jones, Gill Funze John Wiley & Sons Inc 2020

### **Texts MODULE 3: VASCULAR REHABILITATION**

- The diagnosis and treatment of peripheral lymphedema: 2020 Consensus Document of the International Society of Lymphology
- Linee di indirizzo sul linfedema e altre patologie correlate al sistema linfatico, 2016
- GUIDA PRATICA ALLA LINFOLOGIA E PATOLOGIE CORRELATE, Dott. Sandro Michellini