



## BSc in Physiotherapy

**INTEGRADED COURSE TITLE:** VASCULAR REHABILITATION  
**NUMBER OF ECTS CREDITS:** 6  
**SSD:** MED/48  
**MODULE CONVENOR:** PROF.SSA GIULIA COCOZZA  
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MODULE: NURSING SCIENCES AND NEUROPSYCHIATRIC REHABILITATION TECHNIQUES  
NUMBER OF ECTS CREDITS: 2  
SSD: MED/48  
PROFESSOR: [GIULIA COCOZZA](#) PROF : [FABIO ROMALDINI](#)  
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MODULE: NURSING SCIENCES AND NEUROPSYCHIATRIC REHABILITATION TECHNIQUES  
NUMBER OF ECTS CREDITS: 2  
SSD: MED/48  
PROFESSOR: [MASSIMO MENCARINI](#)  
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Walk-in appointments will be offered on Mondays from 15:30a.m. - 18:30 a.m.,  
ground floor, Students' Counseling Office.

MODULE: NURSING SCIENCES AND NEUROPSYCHIATRIC REHABILITATION TECHNIQUES  
NUMBER OF ECTS CREDITS: 2  
SSD: MED/48  
PROFESSOR: [CATERINA GRUOSSO](#)  
e-mail : [caterina.gruosso@unicamillus.org](mailto:caterina.gruosso@unicamillus.org)  
Walk-in appointments will be offered on Saturday from 9:30a.m. - 12:30 a.m.,  
ground floor, Students' Counseling Office.

### PREREQUISITES

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.



## LEARNING OUTCOMES

### 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

### 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.

### Communication Skills

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

### Making Judgements

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

## COURSE SYLLABUS

### Syllabus Prof. Massimo Mencarini

- 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)



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- 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 Prof. Fabio Romaldini / Prof.ssa Giulia Cocozza**

Vascular risk factors • General principles in lympho- venous rehabilitation • Guide lines and scientific evidences in lympho- venous rehabilitation • Pain management • Management of lymphatic disorders • Scar management • Introduction to complex decongestive therapy

### **Syllabus Prof.ssa Caterina Grusso**

INTRODUCTION • Cardiovascular system anatomy and physiology • Systolic / diastolic / pulse / mean arterial pressure • Cardiovascular response to exercise • DISEASES/DIAGNOSTIC TESTING AND INTERPRETATION • Different types of cardiomyopathy • Assessment and diagnosis of coronary artery disease • Heart failure and heart attack; systolic dysfunction, diastolic dysfunction, hypertension • Types of diabetes: benefits of exercise for patients with diabetes • Normal cardiac cycle as indicated on the ECG • Risk stratification • EXERCISE PRESCRIPTION IN PREVENTION AND REHANILITATION PROGRAMS • Phases of cardiac rehabilitation • Training principles • Exercise prescription principles • Inpatient rehabilitation guidelines • Outpatient rehabilitation guidelines • Core components and models: prevention and rehabilitation programs • Assessment of exercise capacity • Maximal test (Stress Test) • Borg perceived exertion scale • CR in Comorbidities • Psycosocial Rehab

### **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:

**Unsuitable:** Poor or lacking knowledge and understanding of the topics; limited capacity for analysis and synthesis, frequent generalizations of the required contents; inability to use technical language.

**18-20:** Just enough knowledge and understanding of topics, with obvious imperfections; just sufficient capacity for analysis, synthesis and independent judgement; poor ability to use technical language.

**21-23:** Sufficient knowledge and understanding of topics; sufficient capacity for analysis and synthesis with the ability to logically and coherently argue the required contents; sufficient ability to use technical language.

**24-26:** Fair knowledge and understanding of the topics; discrete capacity for analysis and



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synthesis with the ability to rigorously argue the required contents; discrete ability to use technical language.

**27-29:** Good knowledge and understanding of required content; good capacity for analysis and synthesis with the ability to rigorously argue the required contents; good ability to use technical language.

**30-30L:** Excellent level of knowledge and understanding of the requested contents with an excellent capacity for analysis and synthesis with the ability to argue the requested contents in a rigorous, innovative and original way; Excellent ability to use technical language.

## READING MATERIALS

### PROF. MASSIMO MENCARINI

- 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

### PROF.SSA CATERINA GRUOSSO

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

### PROF.SSA GIULIA COCOZZA / PROF. FABIO ROMALDINI

- 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