

## **Degree Course in Physiotherapy**

### **INTEGRATED TEACHING: VASCULAR REHABILITATION**

**CFU: 6**

**SSD: MED/48**

**COORDINATOR: PROF. LEONARDO PELLICCIARI**

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MODULE: NURSING SCIENCES AND NEUROPSYCHIATRIC REHABILITATION TECHNIQUES

CFU: 2

SSD: MED/48

PROFESSOR: PROF. SIMONETTA ROSSI

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MODULE: NURSING SCIENCES AND NEUROPSYCHIATRIC REHABILITATION TECHNIQUES

CFU: 2

SSD: MED/48

PROFESSOR: PROF. LEONARDO PELLICCIARI e-mail: [leonardo.pellicciari@unicamillus.org](mailto:leonardo.pellicciari@unicamillus.org)

(Walk-in appointments will be offered on Mondays from 15:30 a.m. - 18:30 a.m., ground floor, Students' Counseling Office)

MODULE: NURSING SCIENCES AND NEUROPSYCHIATRIC REHABILITATION TECHNIQUES

CFU: 2

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PROFESSOR: PROF. CATERINA GRUOSSO

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### **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**

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Learning objective is the knowledge of the principles, evaluation and treatment techniques in respiratory rehabilitation. These objectives will be achieved through lectures aimed at improving the ability to address and resolve the main issues of this field.

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Learning objective is the knowledge of principles, protocols and evaluation and treatment in cardiosurgical rehabilitation. In addition knowledge of management of pain, edema and scars. These objectives will be achieved through lectures aimed at improving the ability to address and resolve the main issues of this area.

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Knowledge of the theoretical basis of the physiopathology in cardiovascular disease and related semeiotic system, knowledge of tools and indicators of cardiovascular function. Knowledge the basis of training in cardiac rehabilitation, learn assessment skills related to cardiovascular function tests and pragmatic rehabilitation treatment. Get to know multiprofessional paths and how to evaluate the results of the most indicative vital parameters for prognostic stratification.

These objectives will be achieved through lectures and problem-solving workshop.

## LEARNING OUTCOMES

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### **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

### **communication skills**

At the end of the course, the student should know:

- Use specific scientific terminology appropriately.

### **making judgements**

At the end of the course, the student should know:

- Carry out general assessments relating to the topics covered.

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### knowledge and understanding

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

- Acquire skills in the physiotherapy assessment and treatment in cardiosurgical intervention
- 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, edema, scars  
Capacità di applicare conoscenza e comprensione (Applying knowledge and understanding)

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### **knowledge and understanding**

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

- 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

## COURSE SYLLABUS

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- Definition 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)

- 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)
- Respiratory rehabilitation in Critical Area
- Consultation of the COPD Rehabilitation Guidelines

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INTRODUCTION • Rehabilitative protocol in cardio surgical patient • Guide lines and scientific evidences in cardiovascular rehabilitation • Cardiac Rehabilitation in specific cases • Pain management • Management of lymphatic disorders • Scar management

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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) • Submaximal test (six-minute walk test; 6MWT) • Balance and flexibility test • Short Physical Performance Battery • Borg perceived exertion scale • CR in Comorbidities • Psychosocial Rehab

### **COURSE STRUCTURE**

The Course is structured in 20 hours of frontal teaching, divided into lessons of 2, 4 or 5 hours according to the academic calendar.

### **COURSE GRADE DETERMINATION INTEGRATED COURSE**

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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 in the field of respiratory rehabilitation. The following will also be assessed: making judgments, communication skills (communication skills) and learning skills (learning skills) as indicated in the Dublin descriptors.

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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 rheumatological nature. The following will also be assessed: making judgments, communication skills (communication skills) and learning skills (learning skills) as indicated in the Dublin descriptors.

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The verification of the preparation of the students will take place through a written test. The Examining Commission will assess the ability of the Student to apply the knowledge and will ensure that the skills are adequate to support the step of the clinical reasoning process protocol. The following will also be assessed: making judgments, communication skills (communication skills) and learning skills (learning skills) as indicated in the Dublin descriptors.

#### **READING MATERIALS**

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- 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

Walk-in appointments will be offered on Mondays from 15:30a.m. - 18:30 a.m., ground floor, Students' Counseling Office.

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

Walk-in appointments will be offered on Saturday from 9:30a.m. - 12:30 a.m., ground floor, Students' Counseling Office.

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Springer, Cardic Rehabilitation Manual, 2<sup>nd</sup> edition, Niebauer J., 2017

- Davis Plus, Therapeutic exercise foundations and techniques, Kisner C & Colby L.A., F.A. Davis Company, Philadelphia, 2012

- Linee guida, buone pratiche ed evidenze scientifiche in medicina fisica e riabilitativa (I e II vol), Valter Santilli, Università degli studi di Roma La Sapienza, 2018

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