Degree in Physiotherapy
INTEGRATED TEACHING: REHABILITATION METHODOLOGY I
Docente Responsabile: Prof.ssa Loredana Gigli e-mail:loredana.gigli@unicamillus.org

TEACHING: Nursing Sciences and neuropsychiatric rehabilitation techniques
SSD: MED/48
CFU: 6
PROFESSOR:Loredana Gigli e-mail: loredana.gigli@unicamillus.org
PROFESSOR: Giovanni Galeoto e-mail: giovanni.galeoto@unicamillus.org
PROFESSOR: Annamaria Servadio e-mail: annamaria.servadio@unicamillus.org
PROFESSOR: Loredana Gigli e-mail: loredana.gigli@unicamillus.org

PREREQUISITES
Mandatory preparatory knowledges are not required, however knowledge about anatomy and neuroanatomy, physiology and neurophysiology and basic concepts of Physics and applied physics are required. are necessary.

LEARNING OBJECTIVES
General Objective: *The student will have to acquiregeneral knowledge on the significance of f unctionalevaluation, the methodological approach ofrehabilitation, on the subjects participati ng in it, and onthe general techniques of handling and mobilizingPatient.*
Specific objectives*: Through a deepening of the joint physiology, themuscular tests and the tec hniques of mobilization andhandling of loads, the student will be able to acquire thefoundation s to undertake the practical training course.*

LEARNING OUTCOMES
knowledge and understanding
At the end of the course the student is required to know
- the basic anatomical terminology and basic anatomical structures of the human body (locomotor apparatus)
- organization and basic structure of the central and peripheral nervous system
- Acquire specific knowledge on biomechanics and joint physiology as an analysis and guidance system for function assessment
- Acquire specific knowledge on the neurophysiological mechanisms of manual muscle test functioning
- Learn the main tests of muscle and joint examination and their correct execution
- Learn the evaluation method of the Manual Muscle Test

Applying knowledge and understanding
At the end of the course the student will be able to:
Use the acquired knowledge of human anatomy and neuroanatomy for the functional assessment of the healthy person.

communication skills
At the end of the course the student must know adequately human anatomical structures, muscle and joint tests, joint physiology and biomechanics and knowing how to use specific anatomical terminology so as to be able to relate, within the care process, with users of all ages and / or other health professionals, in an appropriate verbal, non-verbal and written form.

making judgements
The knowledge of biomechanics, joint and muscle physiology will help the physiotherapist to develop a critical thinking in the ability to decide the correct answer to the needs of assistance in relation to the different levels of complexity of the rehabilitation intervention

Syllabus
BIOMECHANICS PROGRAM

- Articular physiology of the pelvis and the lower limb
- The pelvis: articular surfaces; Physiology of movements; Ligaments and muscular actions
- Hip: articular surfaces; Physiology of movements; Ligaments and muscular actions
- The knee: articular surfaces; Physiology of movements; Ligaments and muscular actions
- The ankle: articular surfaces; Physiology of movements; Ligaments and muscular actions
- Foot: articular surfaces; Physiology of movements; Ligaments and muscular actions

The PLANTAR Vault: Functions of the Vault; Inner Arch; Outer arc; Front arch; transverse and longitudinal curvature; Muscles that support the plantar vault; Carrying of the foot to the ground during the pass.

Articular physiology of the shoulder and upper extremity

SECTION I
- Principles and Methods
- Joint Range of Motion
- Assessment and Measurement of Joint Range of Motion
- Assessment and Measurement of Muscle Length
- Manual Assessment of Muscle Strength
- Functional Application of Assessment of Joint
- Range of Motion and Manual Muscle Testing
- Relating Assessment to Treatment
- Similar Assessment and Treatment
- Methods
- Key Steps When Applying Assessments and Treatments
- Examples of Similar Assessment and Treatment Methods

SECTION II
- Regional Evaluation
- Techniques

Shoulder Complex
- Articulations and Movements
- Surface Anatomy
- Range of Motion Assessment and Measurement
- Muscle Length Assessment and Measurement
- Muscle Strength Assessment
- Functional Application

UniCamillus – Saint Camillus International University of Health Sciences – Via di Sant'Alessandro 8 - 00131 Roma
www.unicamillus.org info@unicamillus.org PEC: unicamillus@pec.it Tel. +3906400640 Codice Fiscale 97962900581 P.Iva. 15031161001

Elbow and Forearm

- ❑ Articulations and Movements
- ❑ Surface Anatomy
- ❑ Range of Motion Assessment and Measurement
- ❑ Muscle Length Assessment and
- ❑ Measurement
- ❑ Muscle Strength Assessment
- ❑ Functional Application

Wrist and Hand

- ❑ Articulations and Movements
- ❑ Surface Anatomy
- ❑ Range of Motion Assessment and Measurement
- ❑ Muscle Length Assessment and Measurement
- ❑ Muscle Strength Assessment
- ❑ Functional Application

Hip

- ❑ Articulations and Movements
- ❑ Surface Anatomy
- ❑ Range of Motion Assessment and Measurement
- ❑ Muscle Length Assessment and Measurement
- ❑ Muscle Strength Assessment
- ❑ Functional Application

Knee

- ❑ Articulations and Movements
- ❑ Surface Anatomy
- ❑ Range of Motion Assessment and Measurement
- ❑ Muscle Length Assessment and Measurement
- ❑ Muscle Strength Assessment
- ❑ Functional Application

Ankle and Foot

- ❑ Articulations and Movements
- ❑ Surface Anatomy
- ❑ Range of Motion Assessment and Measurement
- ❑ Muscle Length Assessment and Measurement
- ❑ Muscle Strength Assessment
- ❑ Functional Application

Head, Neck, and Trunk

- ❑ Articulations and Movements: Head and Neck
- ❑ Instrumentation and Measurement Procedures:
- ❑ TMJ and Spine
- ❑ Active Range of Motion Assessment and Measurement: Head and Neck
- ❑ Validity and Reliability: Measurement of the TMJ and Cervical Spine AROM
- ❑ Muscle Strength Assessment: Muscles of the Face
- ❑ Muscle Strength Assessment: Muscles of the Head and Neck
- ❑ Articulations and Movements: Trunk
- ❑ Surface Anatomy: Trunk
- ❑ Active Range of Motion Assessment and Measurement: Trunk
- ❑ Validity and Reliability: Measurement of the Thoracic and Lumbar Spine AROM
- ❑ Muscle Length Assessment and Measurement: Trunk
- ❑ Muscle Strength Assessment: Muscles of the Trunk
- ❑ Functional Application: Neck and Trunk

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COURSE STRUCTURE

The teaching is organized in lectures (60 hours) and practical theoretical exercises. During the lessons, the explanation of articular Physiology and Biomechanics will be performed by projecting illustrative images (Power-Point) and video. During the exercises the students will be able to test the arctic and muscular tests on themselves simulating the function evaluation. In the classroom during the lessons the students will practice the mentioned tests in groups.

COURSE GRADE DETERMINATION

The assessment of learning takes place on the basis of an oral and theoretical test and a practical test. For each test, different scores are awarded depending on the difficulty of the application and depending on the answers given (complete or partial) for a maximum of 30 points.

The overall mark is determined by the sum of the mark of the theoretical test with the mark obtained in the practical test. There are two questions for each theoretical and practical area.

OPTIONAL ACTIVITIES

Students will have the opportunity to carry out theoretical / practical exercises and participate in dedicated seminars. The teachers will provide constant support during and after the lessons. The Practice Laboratory is available to students for individual and group study.

SUGGESTED BOOKS:

Functional anatomy-upper limb-lower extremity-trunk and spine - Kapandji | Monduzzi

- MUSCULO-SKELETAL ASSESSMENT Joint Motion and Muscle Testing - Hazel M. Clarkson, M.A., B.P.T. 2013 LIPPINCOTT WILLIAMS & WILKINS
- Muscles: Testing and Function, with Posture and Pain: Testing and Function with Posture and Pain, (ENGLISH EDITION) Florence P. Kendall, Elizabeth Kendall McCreary Patricia G. Provance Mary Rodgers William Romani, LIPPINCOTT WILLIAMS & WILKINS
- Musculoskeletal Assessment: Joint Motion and Muscle Testing Spiral-bound – 17 Jan 2012 LIPPINCOTT WILLIAMS & WILKINS
- Physiology of the Joints 6th Edition Volume 2 Lower Limb ELSAVIER
- Muscles: Testing and Function, with Posture and Pain: Testing and Function with Posture and Pain, (ENGLISH EDITION) Florence P. Kendall, Elizabeth Kendall McCreary Patricia G. Provance Mary Rodgers William Romani, LIPPINCOTT Musculoskeletal Assessment: Joint Motion and Muscle Testing Spiral-bound – 17 Jan 2012 LIPPINCOTT WILLIAMS & WILKINS
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