



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## COURSE SYLLABUS

### Kinesiology

2122-1-I0201D129-I0201D007M

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#### Aims

The course aims to provide students with basic and advanced knowledge of biomechanics and kinesiology of the human body and to promote clinical reasoning.

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#### Contents

The physiology of the joints of the locomotor system, application of biomechanical principles to the analysis of human movement. Topics include developmental, anatomical, electromyographical, and physiological elements of kinesiology with regard to individual joints. The content of this course are theoretical prerequisites in order to understand the organization of common functional activities such as gait and transitional movements.

#### Detailed program

- general osteoarticular physiology of the spine
- osteoarticular physiology of the pelvic girdle and SI joint

- osteoarticular physiology of the lumbar ,thoracic and cervical spine
- osteoarticular physiology of the upper limbs
- osteoarticular physiology of the lower limbs
- Kinematic and osteokinematic
- joint kinematics
- Principles of biomechanics
- Spine: interaction between muscles and joints
- upper limb: interaction between muscles and joints
- lower limb: interaction between muscles and joints
- Physiology of gait

### **Prerequisites**

### **Teaching form**

Lessons in attendance, subject to any ministerial changes following the COVID pandemic situation

### **Textbook and teaching resource**

- KINESIOLOGY OF THE MUSKULOSKELETAL SYSTEM FOUNDATIONS FOR REHABILITATION NEUMANN D.A. Mosby

- Carol A. Oatis, Kinesiology: The Mechanics and Pathomechanics of Human Movement – Lippincott Williams & Wilkins ISBN: 9780781774222

### **Semester**

1st semester

### **Assessment method**

Described in the subject's syllabus

### **Office hours**

By appointment

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