UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

# COURSE SYLLABUS

# Anatomy and Kinesiology

**2526-1-I0201D129**

## Aims

After completing the module, the student will be able to accurately describe the movement of the joints and segments of the human body using appropriate terminology. The course aims to develop the student's knowledge of the structure and function of the human body and its systems, with particular focus on the morphofunctional aspects of the musculoskeletal system. Students will gain a thorough understanding of the morphology of bones, muscles, and joints, their interrelationships, and their functions, as well as the biomechanics and kinesiology of joints. Students will also be able to appropriately use terminology related to anatomical reference planes and the parameters used to describe human movement.

The module also aims to provide foundational knowledge of physics and biomechanics to support students' ability to understand and analyze human movement. This will be achieved by integrating anatomical and physiological knowledge of both the nervous system and the osteo-myo-articular system. Students will analyze the anatomy and function of the spine and limbs, and describe normal posture in standing and sitting, as well as locomotion. Additionally, students will acquire advanced knowledge of the physiology of the osteo-myo-articular system, including muscle contraction and the analysis of its physiological properties.

The module further aims to foster an understanding of the morphological, biochemical, physiological, and social factors that influence individual health status, including considerations from a gender perspective.

## Contents

The topics of the course include the notions of anatomy, kinesiology and biomechanics of the axial and appendicular skeletal joints. Particular attention will be paid to the action of the individual muscles or muscle groups responsible for the different modes of movement for each individual joint, whose degrees of freedom, joint widths, factors limiting movements and position of function will be assessed. The main muscle functions will be specified so that the different movements can take place and those that oppose them (antagonist muscles), contribute to movement (synergistic muscles) or limit the action of a component of the agonist muscle (neutralizing muscles).

Each single module is described in its own reference syllabus

## Detailed program

The detailed program is described within each individual module.

Will be presented:

- Anatomy of the locomotor system
- Introduction to Kinesiology 1 & 2
- Kinesiology 1 & 2

## Prerequisites

## Teaching form

Lessons in attendance

## Textbook and teaching resource

Slides presented during the lessons

Bibliography present in the syllabus of each single module

## Semester

First semester

## Assessment method

The assessment and evaluation of learning consist of a structured exam that includes:

- Multiple-choice questions: Each question has only one correct answer, except where stated otherwise, allowing for more than one correct answer.
- Open-ended questions: These questions have a predefined response space. The answers will be evaluated based on their correctness and coherence with the required query.
  The total points will be divided based on the number of questions present. The duration of the written exam is 2 hours and 20 minutes.

No interim assessments are planned.

## Office hours

By appointment

## Sustainable Development Goals

GOOD HEALTH AND WELL-BEING