UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Movement Basics

2223-1-I0202D138

Aims

By the end of the course students will have acquired the skills to understand the physiological aspects of movement. The course aims at developing the students' understanding of the basic mechanisms that regulate molecular organization, biochemical reactions, cellular and subcellular morphology and metabolic pathways that drive the operating system and the anatomy of osteoarticular system.

Contents

The course aims to provide basic knowledge on the following topics:
The cell. Organization of the cellular space. The cytoplasmic membrane. The mitochondrion. Molecular mechanisms essential to cell life. Functional organization of the different tissues as basic components of the organs. Biological significance of macromolecules and their role in organisms. Energy metabolism and nutritional aspects as a source of energy in everyday life and in physical exercise; digestive processes. The chromosomes. Cell division. Errors of chromosomal mechanics. Fertilization. Heredity and Mendel's Laws. The transmission of genes. Human karyotype. Ion channels, resting membrane potential, action potential and synaptic transmission. Response to stimuli, pain perception, organization of the motor system, neurophysiological mechanisms for controlling movements and the structures involved.

Detailed program

See the syllabus of each teaching module

Prerequisites

None

Teaching form

Lessons will be held in presence, unless further COVID-19 related restrictions are imposed.

Textbook and teaching resource

See syllabus of each teaching module

Semester

First year, I semester

Assessment method

Test with multiple choice only at the end of the course (15 quiz of biology, 15 of Histology,15 of Biochemistry, 15 of Genetics) and two open ended questions of Neurophysiology. The test is aimed at verifying the acquisition of the notions reported in the program. The correctness and consistency of the answers with respect to the question requested will be assessed.
Final oral exam at the discretion of the teacher or on the student's proposal regarding the project.

Although this course is held in Italian, for Erasmus students, course material can also be available in English, and students can take the exam in English if they wish to do so

Office hours

by appointment (email request)

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING