UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Movement Basics

2526-1-I0202D138

Aims

Knowledge and understanding

Introduction to the study of biology and genetics
Description of the structure and function of the various components of neuronal eukaryotic cells
Analysis of the fundamental principles of inheritance and expression genetic information
Knowledge in biochemical processes, cellular and subcellular morphology and metobolic cycles
Knowledge in neurophysiology

Applying knowledge and understanding

Ability to correlate structure and function
Ability to contextualize concepts of biology, genetics, biochemistry, histology and neurophysiology to everyday life and to health
Ability to assess critically interdisciplinary concepts

Making judgements

TStudents develop the ability to independently evaluate the methodological coherence of problem solving and critically interpret, among multiple possible options, the most suitable approach to the problem. The exam format,

which includes open questions, stimulates independence of judgment and critical thinking in the application of theorical knowledge.

Communication skills

The course promotes the development of communication skills through classroom discussion. The exam includes open questions that require the use of appropriate technical language and the ability to clearly and coherently convey the results.

Learning skilss

The course provides a solid theoretical foundation and allows the development of an active and autonomous study methodology, which is also useful for subsequent courses with greater specialization, as well as in future professional or research practice.

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.
Argumnts concerning the gender medicine will be treated in some relevant modules.

Detailed program

See the syllabus of each teaching module

Prerequisites

None

Teaching form

Lessons will be held in presence.

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