UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Biomedical Sciences 1

2526-1-I0102D001

Aims

Knowledge and understanding
The student will acquire knowledge of the histological and anatomical foundations essential for studying human physiology and pathology, understanding the structure and function of cellular components, and the related molecular mechanisms. They will also learn about chromosomal disorders, concepts of hereditary transmission, and “non-traditional” pathogenic mechanisms. Additionally, they will understand principles of chemistry and biochemistry as applied to biomedical sciences.

Applying knowledge and understanding
The student will be able to apply the acquired knowledge to interpret biological phenomena qualitatively and quantitatively, analyze the histological and anatomical bases of human physiology and pathology, and understand the molecular and genetic mechanisms underlying chromosomal disorders and hereditary transmission modes.

Making judgements
The student will develop the ability to critically evaluate information related to cellular, molecular, and genetic bases of human diseases, distinguish between different pathogenic mechanisms independently.

Communication skills
The student will be able to effectively communicate the knowledge acquired regarding histological, anatomical, genetic, and biochemical foundations, using appropriate and clear language, even in multidisciplinary contexts and with non-specialist audiences.

Learning skills
The student will develop the skills necessary for autonomous deepening of topics related to genetics, biology, biochemistry, and anatomy, and will be able to stay updated on new discoveries and methodologies in biomedical sciences.

Contents

The course aims to provide information for understanding the organization of the human body; to explain how cells and tissues are organized to form organs and systems; to highlight the functional correlations of the micro- and macroscopic anatomy. It also aims to transmit the knowledge of the structure and function of the various components of eukaryotic cells, the molecular mechanisms involved in cell replication, the molecular mechanisms involved in gene expression; chromosomal pathologies; the concepts and methods of transmission of hereditary characteristics "non-traditional" pathogenetic mechanisms, as well as the foundations for the qualitative and quantitative knowledge of biological phenomena for a correct application of therapeutic prescriptions. Chemistry, metabolism and nutrition.

Detailed program

Details are provided in each specific module.

Prerequisites

none

Teaching form

Frontal lectures. For details, check each module.

Textbook and teaching resource

Details are provided in each specific module.

Semester

1st year, I semester

Assessment method

The Biomedical Sciences 1 course is divided into 4 modules: Genetics (1 CFU), Biology (1 CFU), Biochemistry (2 CFU) and Anatomy/Histology (4 CFU).
The exam consists of a 2-hourand 30 minutes written test consisting of:

Biology, Genetics and Biochemistry Quiz (4 CFU). Total 33 questions relating to the three modules in proportion to the credits of each module. Multiple answer each value 1. Time: 1 hour
Anatomy/Histology Quiz (4 CFU). Total 29 multiple choice questions (value 1) and one open question (short assay- 4 points). Time: 1 hour and 30 minutes
The final grade will be given by the average of the 2 grades.

Office hours

On appointment. Based on the need, please reach out the teacher of each specific module.

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING | QUALITY EDUCATION | GENDER EQUALITY