



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## SYLLABUS DEL CORSO

### Biochimica

2324-1-I0102D001-I0102D001M

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#### Aims

The course will provide principles of chemistry and the understanding of the basic mechanisms regulating the molecular organization, the biochemical reactions, the cellular and sub-cellular morphology and the metabolic cycles. The course also aims to develop in the student the knowledge of the principles of nutrition.

#### Contents

The student will learn 1) the general information on the molecules that make up living matter; 2) the structure, function, mechanism of action of enzymes and their role in metabolic regulation; 3) the mechanism by which the living organism produces energy; 4) nutritional aspects as a source of energy in everyday life and in physical exercise; 5) digestive processes, the molecules involved in energy metabolism.

#### Detailed program

Introduction to the course and general information on living matter. Chemistry principles. Structural biochemistry: Carbohydrates, Lipids, Proteins, Nucleotides. Biochemical reactions, enzymes, enzymatic kinetics, regulation. Bioenergetics, respiratory chain, oxidative phosphorylation. Principles of digestion and absorption of nutrients. Nutrition and Vitamins. Energy metabolism.

#### Prerequisites

## **Teaching form**

Frontal lectures

## **Textbook and teaching resource**

Siliprandi Tettamanti Biochimica Medica V Ed Piccin

Di Giulio A., Fiorilli A., Stefanelli C., Biochimica per le scienze motorie, Casa Ed Ambrosiana

Bertoli, Colombo, Magni, Marin Palestini Chimica e Biochimica Edises anche in e-book

Nelson and Cox Fondamenti di biochimica di Lehninger Ed Zanichelli 2021 anche in e-book

## **Semester**

1st year, I semester

## **Assessment method**

Written test.

15-20 multiple choice/true-false questions

## **Office hours**

on appointment

## **Sustainable Development Goals**

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

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