UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Biochimica

2324-1-I0303D002-I0303D006M

Aims

Students must be able:

-to explain structural characteristic of protein and the structure-function ratio

-to describe the role of enzyme in the biochemical reactions, with particular attention to enzymatic kinetic and regulation

-to define bioenergetics concepts, explaining respiratory chain function

-to describe sugars, lipids and proteins mechanisms of digestion and absorption

-to describe the metabolism of glucose, amino acid and fatty acid

-to describe cholesterol, ketone bodies, purines and pyrimidines, hormones metabolism and hormonal regulation of metabolism

-to describe calcium metabolism.

Contents

The course aims to provide the student with: the knowledge of general and organic chemistry for the study of compounds in biological systems; the knowledge of the main metabolic pathways and biochemical cellular mechanisms; the knowledge of the structure and function of pro/eukaryotic cells, thanks to the tools provided by the integration of the most current and advanced concepts of molecular and cellular biology; the basis of formal human genetics, introducing the student to the most basic laboratory techniques used for the diagnostic approach and research of hereditary disease

Detailed program

BIOCHEMISTRY

· Living matter in general.

· Proteins: structure-function ratio, plasmatic protein.

· Biochemical reactions, enzymes, enzymatic kinetic and regulation.

· Bioenergetics, respiratory chain, oxidative phosphorylation.

· Digestion, absorption of sugars, lipids and proteins.

· Glucose, amino acid and fatty acid metabolism.

· Cholesterol, ketone bodies, purines and pyrimidines, hormones metabolism, and hormonal regulation of metabolism.

· Calcium metabolism.

Prerequisites

Teaching form

Lectures

Textbook and teaching resource

Siliprandi & Tettamanti: Biochimica medica" PICCIN

M. Stefani, N. Taddei: Chimica Biochimica e Biologia Applicata Zanichelli.

R. Roberti, G. Alunni Bistocchi: Elementi di Chimica e Biochimica McGrawHil

Semester

First semester

Assessment method

Office hours

By appointment required by mai

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING