UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Biochemistry

2425-1-I0303D002-I0303D006M

Aims

The student should be able to:
-illustrate the structural characteristics of proteins and the structure-function relationship
-describe the role of enzymes in biochemical reactions, with particular attention to enzyme kinetics and its regulation.
-Define the concept of Bioenergetics, illustrating the functioning of the respiratory chain.
-Illustrate the mechanisms of digestion and absorption of carbohydrates, lipids and proteins.
-Describe the metabolism of glucose, fatty acids and amino acids.
-Describe the metabolism of cholesterol and ketone bodies, purine and pyrimidine bases, hormones and hormonal regulation of metabolism.

Contents

The course provides the student with the knowledge necessary for the study of compounds present in biological systems and also with knowledge of the main metabolic pathways and cellular biochemical mechanisms.

Detailed program

• General information on living matter.
• Proteins: structure-function relationship. Plasma proteins.
• Biochemical reactions, enzymes, enzyme kinetics, regulation.
• Bioenergetics, respiratory chain, oxidative phosphorylation.
• Digestion, absorption of carbohydrates, lipids and proteins.
• Metabolism of glucose, fatty acids and amino acids.

• Cholesterol metabolism and ketone bodies, purine and pyrimidine bases, hormones and hormonal regulation of metabolism.

Prerequisites

Teaching form

8 frontal lessons of 2 hours carried out in attendance

Textbook and teaching resource

Siliprandi & Tettamanti: Biochimica medica" PICCIN

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

In addition, for Bergamo students:
R. Roberti, G. Alunni Bistocchi: Elementi di Chimica e Biochimica McGrawHil
Material will be provided by the teacher.

Semester

First semester

Assessment method

Monza
the Biochemistry written test will be made up of 10 multiple choice questions to check your preparation on the exam programme.

Bergamo
the Biochemistry written test will be made up of 30 multiple choice questions to check your preparation on the exam programme. Possible oral exam upon request of the teachers or the student.

Office hours

By appointment required by mai

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING | QUALITY EDUCATION