UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Biochemistry

2324-4-H4102D028-H4102D103M

Aims

To understand the biochemical pathways underlying the CNS metabolism under physiological conditions. To understand how derangement of metabolism can affect CNS functions. The course will focus on the biochemical and metabolic changes occurring in pathological conditions.

Contents

Metabolism of CNS (saccharides, proteins amino acids, lipids). Biochemistry of the blood-brain barrier. Metabolic changes in pathological conditions. Nutritional aspects. Neurotransmitters.

Detailed program

Metabolism of CNS (carbohydrates, proteins amino acids, lipids) in physiological conditions. Biochemistry of the blood-brain barrier. Metabolic changes in neurodegenerative diseases. Metabolic changes in brain tumours. Metabolic changes in ischemia-reperfusion injury. Nutritional aspects. Metabolism of neurotransmitters.

Prerequisites

Basic knowledge of biochemistry, biology and chemistry.

Teaching form

Frontal lectures that require the active participation of students who will be involved in the subject by proposing group work, calculations and discussion of problems related to the change of body metabolism in different conditions. Frontal lessons and self-assessment tests.

Textbook and teaching resource

Biochemistry with clinical cases . T. Devlin; Biochemistry, Berg et al.

Scientific papers/reviews, slides and materials used during frontal lessons. All the materials will be loaded on e-learning platform.

Semester

second semester.

Assessment method

Written exam: 8 multiple-choice questions together with the other modules of the NVT.

The questions proposed in the written exam will be constructed in such a way as to induce the student to biochemical-clinical reasoning, to understand the units of measurement and to be able to evaluate the skills and competences acquired according to the objectives of the course.

Office hours

on appointment to francesca.re1@unimib.it

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING