UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

From Bench To Bedside:translational Approach To Diseases

2122-2-F0901D050

Aims

The aim of the Course is to provide the student with a critical knowledge of the technical instruments and strategies normally employed in defining the pathophysiology of the various disorders and possible new therapeutic approaches.

Contents

The aim of this course is to present several examples of diseases and their physiopathology, and the role of biotechnology in their diagnosis/ therapeutic approach. Gastroenterological and iron metabolism disorders will be analyzed. A general introduction on the methodologies employed to analyse the molecular mechanisms underlying the pathological processes will be provided.

Detailed program

Monogenic and multifactorial diseases: genetic studies and technical approaches

Physiology and pathophysiology of biliary secretion

Hepatic regeneration and liver fibrosis

Genetic diseases of the biliary epithelium

Primary hepatic tumors

Liver immunopathology

Autoimmune liver diseases

Celiac disease

Inflammatory bowel diseases

Stem cells and their niche in the intestine

Colon cancer, sporadic and inherited forms

Personalized medicine in gastroenterology

Iron homeostasis (mechanisms of cellular and systemic regulation)

Iron and hypoxia

Iron and inflammatory diseases

Hereditary disorders of iron metabolism

Iron and damage

Neurodegenerative brain iron accumulation syndromes (NBIA)

Iron and metabolic syndrome

Prerequisites

Advanced knowledge in genetics, biology and molecular biology.

Teaching form

Lessons in attendance, subject to any ministerial changes following the COVID pandemic situation

Textbook and teaching resource

Reviews

Semester

First semester

Assessment method

These subjects will be evaluated within the exam of the integrated course, that will be an oral examination on the subjects taught during the lectures or on further subjects (part of the program) not exhaustively discussed in class. The exam will be in person.

Office hours

By appointment