UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

# COURSE SYLLABUS

## Gastro-Intestinal Diseases

**2526-2-F0901D059-F0901D100M**

### Aims

The aims 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 gastrointestinal diseases and their physiopathology, and the role of biotechnology in their diagnosis/ therapeutic approach. A general introduction on the methodologies employed to identify the genes involved in multifactorial diseases will be provided, as well as different examples. Moreover it will provide the student with a critical knowledge of the regulatory mechanisms of iron metabolism and related disorders (iron deficiency, primary and secondary iron overload, local and systemic), and technical instruments and strategies normally employed in studying the pathophysiology of iron metabolism and related disorders, and possible new therapeutic approaches.

### Detailed program

Monogenic and multifactorial diseases: genetic studies and technical approaches
Celiac disease
Inflammatory bowel diseases
Stem cells and their niche in the intestine
Colon cancer, sporadic and inherited forms
Iron homeostasis (mechanisms of cellular and systemic regulation)
Iron homeostasis (iron and erythropoiesis)

Hereditary disorders of iron metabolism: the hemochromatosis model
Other hereditary disorders of iron metabolism (iron deficiency anemia and anemia with iron overload)

## Prerequisites

Advanced knowledge in genetics, biology and molecular biology.

## Teaching form

12 two-hour classes delivered in presence.

## Textbook and teaching resource

Slides utilized during the classes and reviews published in international journals.

## Semester

First semester

## Assessment method

These subjects will be evaluated within the exam of the integrated course, as described in the Syllabus of the whole course.

## Office hours

By appointment
Please write to donatella.barisani@unimib.it

## Sustainable Development Goals

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