



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## COURSE SYLLABUS

### Gastro-Intestinal Diseases

2324-2-F0901D059-F0901D100M

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#### 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. 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)  
Iron and damage

## **Prerequisites**

Advanced knowledge in genetics, biology and molecular biology.

## **Teaching form**

Lessons in presence.

## **Textbook and teaching resource**

Reviews published in international journals

## **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

## **Sustainable Development Goals**

GOOD HEALTH AND WELL-BEING | QUALITY EDUCATION

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