UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Genetics

2425-6-H4102D039-H4102D173M

Aims

Gain knowledge on the following topics:
? Major diagnostic genetic techniques.
? Role of prenatal genetic counselling and prenatal screening.
? The most common facial dysmorphism and genetic pediatric conditions.
? Role of genetics in the diagnosis and treatment of pediatric cancers.

Contents

The student will achieve basic knowledge about genetic diseases, genetic predisposition to pediatric cancer, use of molecular genetics for precision medicine.

Detailed program

The course will provide the students with basic concepts of the main genetic investigation techniques used both in the context of prenatal diagnosis and to investigate a suspected genetic condition during childhood.
Examples of NGS analysis will be shown.
The student will gain knowledge on the most frequent genetic condition that can affect the fetus and the child, underlying the importance of prenatal genetic counselling, the role of dysmorphology in the diagnostic approach of genetic disorders, the importance of the multidisciplinary approach in the follow-up of genetic syndromes.
The course will provide knowledge on the genetics of pediatric tumors, with a focus on pediatric acute lymphoblastic leukemia as a model for the genetic dissection of the pathogenetic events, from the genetic predisposition to the prenatal origin and the dissection of somatic events at clinical diagnosis, to provide a risk-based stratification.

Prerequisites

none

Teaching form

The lectures will be held in English. The teaching activities will be conducted primarily in a traditional in-person format; the presentation and reasoned discussion of some clinical cases is planned. No remote teaching activities are scheduled.

Textbook and teaching resource

- Teacher’s slides and papers
- Thompson and Thompson, Genetics in Medicine
- Strachan & Reid, Human Molecular Genetics

Semester

First semester

Assessment method

The assessment and evaluation of students in the VT W&C are an integral part of the exam for the vertical track Woman & Child, as described in the overall syllabus.

Office hours

By appointment via email.

Sustainable Development Goals

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