UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Medical Genetics

2223-4-H4101D262-H4101D077M

Aims

to introduce the students to appropriateness of genetic prescriptions

Contents

Main tecniques of cytogenetics, molecular cytogenetics and molecular genetics

Detailed program

• choosing between the different technologies for the diagnosis of genetic diseases; applications, advantages and limitations in comparison: cytogenetics; molecular cytogenetics (FISH and CGH array, SNP array); molecular genetics (PCR, digital and real-time PCR, allele-specific amplification, hybridization with allele-specific oligonucleotides, Sanger and NGS sequencing, MLPA)
• genetic counseling
• genetic tests: classification (diagnostic, presymptomatic, predictive, pharmacogenomics); appropriateness of requests for genetic testing and clinical utility; genetic testing for research; ethical and social aspects of genetic testing; system for genetic variant classification; ability to read and understand information of a genetic report.
• Genetic and Genomic Databases
• genomic diseases and complex diseases
• cancer predisposition syndromes
• invasive and Non invasive prenatal genetic testing
• clinical cases

Prerequisites

Those foreseen by the didactic regulations of the CdS

Teaching form

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

Textbook and teaching resource

Texbook: Tom Strachan, Andrew Read: Genetica molecolare umana
slides
guidelines and scientific articles provided by the teacher

Semester

first semester

Assessment method

Written exam with 30 multiple choice questions, relating to the lectures topics course program, and oral examination

Office hours

appointemt on request by e-mail

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING