UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

General Pathology

2223-2-I0302D007

Aims

The student must be able to perform the:

- Classification and characterization of cell damage and death mechanisms- Description of vascular and general mechanisms of acute inflammation- Description of pathogenetic mechanisms of chronic inflammation
- Description of pathogenetic mechanisms of hemostasis
- Description of tissue repair and regeneration
- Description of physiopathological mechanisms of fever and hyperthermia
- Definition of cellular and molecular mechanisms of atherosclerosis
- Description of cell-mediated and humoral immunological mechanisms - Classification and descrisption of hypersensibility responses
- Description and characterization of preneoplastic lesions
- Description of neoplastic growth with characterization of benign and malign features
- Description of metastatic process
- Definition and characterization of oncogenes and oncosuppressor genes
- Description of cancerogenic role of physical and chemical agents
- Definition of cancerogenic role of viruses
- Explanation of the fundamentals of microbial genetic code, gene expression adjustments and nature of mutations and gene recombination.
- Description of the host-microbe relationships and the mechanisms of microbial pathogenicity.
- Description of the atypical mechanisms of inheritance
- Description of the diseases due to imprinting defects or to dynamic mutations, and mitochondrial and multifactorial diseases
- Description of clinical cancer genetics examples
- Characterization of blood cellular composition and description of main hematological and immunological diseases

Contents

By the end of the course, the students will have acquired the general concepts and specific knowledge of: ethiopathogenesis of genetic, inflammatory, oncological and immunological diseases; microbic genetics and metabolism; pathogenesis of microbic diseases; the effects of functional alterations of haematological and immunological cells.

Detailed program

The student must be able to perform the:

- Classification and characterization of cell damage and death mechanisms- Description of vascular and general mechanisms of acute inflammation- Description of pathogenetic mechanisms of chronic inflammation
- Description of pathogenetic mechanisms of hemostasis
- Description of tissue repair and regeneration
- Description of physiopathological mechanisms of fever and hyperthermia
- Definition of cellular and molecular mechanisms of atherosclerosis
- Description of cell-mediated and humoral immunological mechanisms - Classification and descrisption of hypersensibility responses
- Description and characterization of preneoplastic lesions
- Description of neoplastic growth with characterization of benign and malign features
- Description of metastatic process
- Definition and characterization of oncogenes and oncosuppressor genes
- Description of cancerogenic role of physical and chemical agents
- Definition of cancerogenic role of viruses
- Explanation of the fundamentals of microbial genetic code, gene expression adjustments and nature of mutations and gene recombination.
- Description of the host-microbe relationships and the mechanisms of microbial pathogenicity.
- Description of the atypical mechanisms of inheritance
- Description of the diseases due to imprinting defects or to dynamic mutations, and mitochondrial and multifactorial diseases
- Description of clinical cancer genetics examples
- Characterization of blood cellular composition and description of main hematological and immunological diseases

Prerequisites

Teaching form

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

Textbook and teaching resource

- G.M. Pontieri ELEMENTI DI PATOLOGIA GENERALE E FISIOPATOLOGIA GENERALE IV ed. PICCIN

- MICROBIOLOGIA E MICROBIOLOGIA CLINICA (per i Corsi di Laurea in Professioni sanitarie) ed. PICCIN

- FONDAMENTI DI GENETICA MEDICA Tobias; M Connor; M Ferguson-Smith Ed. Pearson

Teachers will provide other didactic materials

Semester

Second year- First semester

Assessment method

"In itinere" written tests with multiple choice test and open questions to evaluate global knowledges about course program for "Genetic Pathology", "Microbiology" and "Blood and Immunological Diseases" modules, and final oral test for the other modules.

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

Final judgment is based on the grade point average normalized for credits obtained in each module

Office hours

making an appointment

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING | QUALITY EDUCATION