UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Cytology

2223-1-H4601D002-H4601D008M

Aims

Knowledge of the normal human cytology

Contents

The course aims at providing the basis of normal cytology necessary to understand pathological changes.

Detailed program

CYTOLOGY

Introduction. General methods of investigation in histology and histological stainings.

Plasma membrane (structural, ultrastructural and chemical organization).

Specializations of the cell surface (cilia, stereocilia, flagella, microvilli, basal folds).

Cell contacts (tight, gap and anchoring junctions; cell adhesion molecules) ultrastructure and function.

Transport of the substances through the cell membrane. Endocytosis and exocytosis.

Interphasic nucleus structures: nuclear envelope and nuclear pores; nuclear lamina; nucleoplasma; chromatin; nucleulus.

Endoplasmic reticulum (rough and smooth reticulum) structural, ultrastructural and functional characteristics.

Ribosomes structural and ultrastructural characteristic and general steps of protein synthesis and post traductional modifications.

Golgi apparatus structural, ultrastructural and functional characteristics.

Synthesis and secretion in the cell. Constitutive and regulated secretion. Cellular vesicles trafficking.

Lysosomes: biogenesis, structure, ultrastructure and function. Etero phagocytosis and auto phagocytosis.

Peroxisomes.

Mitochondria: structural, ultrastructural and functional characteristics.

Cytoskeleton: microfilaments, microtubules and intermediate filaments. Centrioles.

Prerequisites

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Teaching form

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

Textbook and teaching resource

Cytology:

- Ross M.H. e Pawlina W. Istologia Testo e atlante. Casa Editrice Ambrosiana

- Di primio et al., Istologia Umana, Casa Editrice Idelson-Gnocchi

- S. Adamo et al. Istologia di Monesi. Piccin.

Semester

First semester

Assessment method

A mid-course assessment (scheduled for the end of the first semester and before each oral exam) by multiple choice quiz focused on Citology, Histology,Embriology and general Anatomy. Moreover, the knowledge of microscopic anatomy will be assessed by the identification of a histological slide.
At the end of the course, the assessment will be based on an oral examination focused on Head Anatomy.

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

Office hours

Mon-Fri by appointment

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING