



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## SYLLABUS DEL CORSO

### Citologia

2324-1-H4601D002-H4601D008M

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#### 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; nucleolus.

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**

High School knowledge

## **Teaching form**

Frontal lessons.

## **Textbook and teaching resource**

see the "Anatomia, Istologia ed Embriologia Generali e dell'Apparato Stomatognatico" syllabus

## **Semester**

1st term

## **Assessment method**

An extensive mid-course assessment is scheduled for the end of the first semester, for the details see "General Syllabus" of course.

Exams in attendance.

## **Office hours**

Mon-Fri by appointment

## **Sustainable Development Goals**

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

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