UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Citologia

1819-1-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

College level scientific knowledge

Teaching form

Lessons, seminars, laboratory practice

Textbook and teaching resource

Cytology:

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

-Ross M.H., Pawlina W. e Barnash T.A. Atlante di Istologiae Anatomia Microscopica. Casa Editrice Ambrosiana ;

-Cui D. Atlante di Istologia. Piccin;

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

-Ten Cate A.R., Embriologia e Istologia del cavo orale, Piccin

-Junqueira, istologia di base: testo e atlante di A.L. Mescher., Piccin

-Wheater, istologia e anatomia microscopica di B. Young, Edra-Masson

Semester

1st and 2nd terms

Assessment method

Part of the ANATOMIA, ISTOLOGIA ED EMBRIOLOGIA GENERALI E DELL'APPARATO STOMATOGNATICO exam

Office hours

Mon-Fri by appointment