UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Organi e Funzioni

2223-1-I0303D003

Aims

The student will learn:

To know and describe the structure and ultrastructure of the eukaryotic cell and correlate the morphology to thefunction of each organelle.

To know and describe the structure and morpho-functional characteristics of human tissues.

ANATOMY

The student will learn:

To know and describe the human body organization and the anatomic terminology. To know and describe the organ macro- and microscopic anatomy and their relationships.

SPECIAL ANATOMY

Insight into Radiological Anatomy.

PHYSIOLOGY

The student will learn:

To know and describe the functional mechanism of the integrated biological processes in conditions of normality and the fundamental tools for the pathologic alteration comprehension.

Contents

The course provides students with the fundamental theoretical knowledge of histology, anatomy and physiology, with a view to their subsequent professional application. Within the different modules, the following concepts will be examined: the cell structure, the morpho-functional characteristics of tissues; the organization of the human body and its macroscopic and microscopic structure; the functional mechanisms of the biological phenomenon integrated in normal conditions and the basic tools to interpret pathological changes. The course also provides insight to Radiological Anatomy.

Detailed program

HISTOLOGY:

Cytology: General properties of eukariotic cells. Cell membrane. Cytosol, intracellular compartments, cytoplasmic organelles, nucleus and cytoskeleton. Histology: Tissues: classification and methods of study. Epithelial tissue, Connective tissue. Adipose tissue. Cartilage. Bone. Smooth muscle, skeletal muscle, cardiac muscle. Nervous tissue. Blood.

ANATOMY:

General Principles of Anatomy. The three-dimensional organization of the human body. Anatomical terminology. The body regions. Hollow organs and parenchymatous organs.

Locomotor system and skeleton, joints, muscles. Circulatory System. Lymphatic system.

Digestive system. Respiratory system. Urinary system. Female and male reproductive system. Endocrine glands. Nervous system.

SPECIAL ANATOMY

Radiological Anatomy

PHYSIOLOGY:

Physiology of the cardiocirculatory system: viscosity and density of the blood; the heart; ventricular pressure-volume relation; conduction system; electrocardiogram; arterial blood pressure and its determinants; blood pressure measurement. Respiratory physiology: oxygen transport-utilization system; transport of O2 and CO2 in the blood; principles of mechanics. Acid-base balance. Maintenance of water-salt balance: Homeostasis and internal environment. Renal physiology. Digestive system physiology. Nervous system physiology. Muscle physiology. Principles of sport physiology.

Prerequisites

Teaching form

Lectures and exercises

Textbook and teaching resource

Ambrosi G. et al.: Anatomia dell’uomo. Edi-Ermes

Bentivoglio M et al.: Anatomia umana e istologia. Edizioni Minerva Medica

Sica G. et al.: ISTOLOGIA per le professioni sanitarie. Idelson Gnocchi

Adamo S. et al.: ISTOLOGIA per i corsi di laurea in professioni sanitarie. Piccin

AA.VV. : Fisiologia dell’uomo. Edizioni Edi.Ermes, Milano.

Guyton A.C.: Elementi di fisiologia umana. Piccin Editore.

For supplementary studies:

Tillman B.: Atlante di Anatomia Umana (Odontoiatria e Medicina), RC Libri

Weber E., Vilensky J., Carmichael S.: Anatomia radiologica di Netter. Ed Elsevier

Last editions

Semester

First semester

Assessment method

The final mark, based on the average score obtained by the students during the different evaluations, is set during an oral interview with the student, during which the written tests are scrolled to check mistakes

Office hours

By appointment required by mail

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING