Study program : PHARMACY

Type and level of studies: Integrated academic studies, Level 1/2

Course unit: FUNDAMENTALS OF HUMAN MORPHOLOGY

Teacher in charge : Associate Professor Ivana Živanović-Mačužić MD, DSc, MSc
Professor Zoran Milosavljevic, MD, DSc, MSc

Language of instruction : ENGLISH

ECTS: 5

Prerequisites:

Semester: WINTER SEMESTER

Course unit objective: Acquiring knowledge and skills in human anatomy, cytology and histology

Learning outcomes of Course unit:

After successfully completing the course, students will be able to:

Fundamentals of human morphology part 1:

- identify and describe the anatomical structures of skeletal, muscular, cardiovascular, respiratory, gastrointestinal, urogenital, nervous and endocrine systems.
- identify and describe the anatomy of the sensory organs.
- demonstrate sufficient knowledge about the structure and function of the human body
- develop a vocabulary of appropriate terminology to effectively communicate anatomy-related information to future coworkers.

Fundamentals of human morphology part 2:

- use common microscopic methods to study cells, tissues and organs in the laboratory.
- describe different types of cells, especially human cells; functional and structural similarities and dissimilarities between them.
- describe structure and function of nuclei, organelles and other cellular components.
- understand fundamental facts regarding structure, cellular arrangement and microscopic anatomy features of human tissues.
- understand fundamental characteristic about structure and basic function of human organs within the organ systems.

Course unit contents

Theoretical classes

Fundamentals of human morphology PART 1: Basic anatomical nomenclature. Anatomical planes and lines. Anatomy of skeletal, muscular, cardiovascular, respiratory, gastrointestinal, urogenital, nervous and endocrine systems. Anatomy of the sensory organs.
Fundamentals of human morphology PART 2: begins with a brief introduction to histological methods for light microscopy and describes the general principles of tissue preparation and examination. The course then goes on to discuss the basic characteristic of the cell structure, morphology of various cell types, cellular arrangements that form the four primary tissues (epithelium, connective tissue, muscle, nerve), and the fundamental microscopic anatomy of human organs within organ systems.

Practical classes

Fundamentals of human morphology PART 1: Basic anatomical nomenclature. Anatomical planes and lines. Anatomy of skeletal, muscular, cardiovascular, respiratory, gastrointestinal, urogenital, nervous and endocrine systems. Anatomy of the eye and the ear.
The laboratory component of the course generally parallels and reinforces lecture concepts through the use of models, skeletal materials and cadaver demonstration.
Fundamentals of human morphology PART 2: Microtechniques and microscopy, Cytoplasm and nucleus, Epithelial tissue and glands, Connective tissue, Muscular tissue, Nervous tissue, Digestive System, Cardiovascular System, Respiratory System, Urinary System, Endocrine System, Female Reproductive System, Male Reproductive System, Eye and Ear, Nervous System

Literature

Fundamentals of human morphology PART 1:

- Vipula, Atula. Human Anatomy and Physiology: For Undergraduate Students of Pharmacy, Nursing, Physiotherapy and Other Paramedical Sciences. LaxmiPublications Pvt. Limited, 2018
- Prepared Handouts for the Anatomy lectures

Fundamentals of human morphology PART 2:

- Junqueira's Basic Histology, 16th ed, McGraw Hill - Lange, 2016 by A.L. Mescher

Number of active teaching hours				**Other classes**
Lectures: 30	Practice: 30	Other forms of classes:	Independent work: 150	

Teaching methods: Lectures, practice in a clinic, clinical problems solving

Examination methods (maximum 100 points)

Exam prerequisites	**No. of points:**	**Final exam**	**No. of points:**
Student's activity during lectures	**30**	oral examination	**70**
practical classes/tests		written examination	
Seminars/homework			
Project			
Other			

Grading system

Grade	**No. of points**	**Description**
10	**91-100**	**Excellent**
9	**81-90**	**Exceptionally good**
8	**71-80**	**Very good**
7	**61-70**	**Good**
6	**51-60**	**Passing**
5	**< 51**	**Failing**