Course: Anatomy and Physiology — credits: 5

Course code	ELVH18GAP
Name	Anatomy and Physiology
Study year	2024-2025
ECTS credits	5
Language	English
Coordinator	P.M. Gomes Lourenco
Modes of delivery	Lecture Practical / Training
Assessments	Anatomy and Physiology - Written, organised by STAD examinations

Learning outcomes

Student can
* Define anatomy and physiology; name the different levels of structural organization
* Explain the survival needs of the body and homeostasis related to the cardiovascular system
* Describe the body's geometry
* Use basic (bio)chemistry to explain the physiology of the cardiovascular system
* Define the cell, organelles and their function
* Describe the chemical composition of the plasma membrane and its functions
* Describe transport over the plasma membrane; phagocytosis and pinocytosis.
* Define membrane potential, neurons and the nervous system
* List characteristics of endothelium, connective tissue, white blood cells, macrophages, cardiac and smooth muscle fibers, nervous tissue
* Define anatomy, operation and chemical exchange of the respiratory system
* Define anatomy of the urinary system and kidney functions
* Define Liver function
* Acquire knowledge of the anatomy and physiology of the musculoskeletal system.
* Name the gross bones, muscles and synovial joints and their major functions
* Describe the composition of bones+ bone healing, muscles and synovial joints
* Explain the physiology of muscle contraction and energy production
* Describe indications for orthopedic procedures
* Apply motion terminology to basic movements and characteristics and muscle contractions of (ab)normal human gait

Content

Anatomy & Physiology is the first of a two-course sequence. It is a study of the structure and function of the human body including cells, tissues and organs of the following systems: integumentary, skeletal, muscular, nervous and special senses. Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis.

Included in programme(s)

Exchange Biomedical Engineering (autumn)
Minor Biomedical Engineering

School(s)

Institute of Engineering

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