INSTITUTO POLITÉCNICO DE BRAGANÇA

Course Unit	Anatomohistophysiology I			Field of study	Health Sciences		
Bachelor in	Physiotherapy			School	School of Health		
Academic Year	2022/2023	Year of study	1	Level	1-1	ECTS credits	6.0
Type	Semestral	Semester	1	Code	9504-770-1102-00-22		

Workload (hours)	162	Contact hours	T	TP	PL	TC	S	E	OT	O
			30	-	30	-	-	-	20	-

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s): Andreia Martins Pereira, Maria Cristina Martins Teixeira

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:
1. Describes the body's levels of structural and functional organization at the chemical, cellular, tissue and anatomical level
2. Identifies; describes the skeleton's bones and main anatomical features; relates structure and functions of the skeletal system, knows the principles of joint classification, describes the main joints
3. Identifies and locates the macroscopic structures of the muscular system, relating to the movements of body segments; describes structures and mechanisms of skeletal muscle contraction
4. Describes the constitution and distribution of the cardiovascular system and understands the principles governing its function.
5. To describe anatomical components of respiratory system and physiological aspects of pulmonary ventilation.
6. Describes the integumentary system's functions and relates the structure and function of its main components

Prerequisites

Before the course unit the learner is expected to be able to:
none

Course contents

1. The organization of the human body -the structural and functional organization of the human body; chemical physiology; cytology; histology.
2. Support and movement: Skeletal system - gross anatomy, histology and development; Articulations and biomechanics of body movement; Muscular system - histology and physiology, gross anatomy; Integumentary system.
3.Constitution,distribution and function of the cardiovascular system
4. Anatomical components of respiratory system and physiological aspects.

Course contents (extended version)

1. INTRODUCTION TO ANATOMY STUDY
   - Topographical regions
   - Anatomical position. Plans. Concepts: cranial/caudal, dorsal/ventral, medial/lateral.
2. OSTEOARTICULAR AND INTEGUMENTARY SYSTEM
   - Skeletal tissues
   - Vertebral column: vertebrae, sacrum, coccyx.
   - Skeleton of thorax: thoracic vertebrae, sternum and ribs.
   - Skull.
   - Upper limb: scapula, clavicle, humerus, radius, ulna, carpal bones, metacarpal bones, phalanges.
   - Lower limb: innominate bone, femur, tibia, fibula, patella, tarsal and metatarsal bones, phalanges.
   - Concept of joint. Synovial joints. The movement.
   - Microscopic organization of the skin
3. MUSCULAR SYSTEM
   - Muscle cell and physiology of muscle contraction
4. CARDIOVASCULAR SYSTEM
   - The heart anatomy: cardiac chambers and valvular complexes.
   - Myocardium. Electrical events: depolarization and repolarization. Cardiac cycle.
   - Hemodynamics. Arterial pressure. Microcirculation.
5. RESPIRATORY SYSTEM
   - Anatomical aspects: nasal cavity, pharynx, larynx, trachea,bronchi, bronchioloules, lungs
   - Pulmonary ventilation, gas exchange and transport in the blood. regulation.

Recommended reading

1. Drake RL, Vogl AW, & AWM, Mitchell (Eds.). (2010). Gray's Anatomia para Estudantes (2ª ed.): Rio de Janeiro: Editora Elsevier.
2. Netter FH (Ed.). (1987). Anatomia y Fisiologia. Colección CIBA de Ilustraciones Médicas. : Barcelona: Salvat Editores.
3. Berne, R. M. , & Levy, M. N. (Eds.). (2004). Fisiologia. (5ª ed.): Rio de Janeiro: Mosby.
4. Hoffbrand, A. V. , Petit, J. E. , & Moss, P. A. H. (Eds.). (2004). Fundamentos de Hematologia. (4ª ed.): Porto Alegre: ARTMED.
5. Ovalle, W. K. , & Nahirney, P. C. (2008). Netter Bases da Histologia. São Paulo Brasil: Elsevier Editor, Ltda.

Teaching and learning methods

Teaching methodology: Theoretical classes and practical laboratory classes (anatomy and physiology), that occur in specific rooms equipped with anatomic models and informatics media.

Assessment methods

1. Continuous evaluation - (Regular, Student Worker) (Final)
   - Intermediate Written Test - 45%
   - Intermediate Written Test - 45%
   - Practical Work - 10%
2. Alternative 3 - (Regular, Student Worker) (Supplementary)
   - Final Written Exam - 100%

Assessment methods

3. Alternative 4 - (Regular, Student Worker) (Special)
   - Final Written Exam - 100%

Language of instruction

Portuguese

Electronic validation

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31-05-2023	31-05-2023	31-05-2023	28-06-2023