

Course Unit	Fundamentals of Pathology	Field of study	Health Sciences
Bachelor in	Physiotherapy	School	School of Health
Academic Year	2023/2024	Year of study	1
Type	Semestral	Semester	2
Level	1-1	ECTS credits	4.0
Code	9504-770-1205-00-23		
Workload (hours)	108	Contact hours	T - , TP 45, PL - , TC - , S - , E - , OT 20, O -

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) Sara Isabel Alves Lucas

### Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Demonstrate knowledge of the concepts of General Pathology, Health and Disease.
2. Perceive and understand the concepts of etiology, pathogenesis, clinical manifestations, diagnosis and the entire pathochrony of pathological phenomena in the human body.
3. Perceive and understand the mechanisms of cell injury and tissue repair.
4. Perceive and understand the pathophysiology of fever; pain; Immunity; hypersensitivity and tumors.
5. Know terminology used in health and the semiology of the main systems of the human body.
6. Recognize a CRP situation, and apply the Basic Life Support (BLS) algorithm in Adults and Children.

### Prerequisites

Not applicable

### Course contents

1.General Pathology, Health and Disease; 2.Pathochrony, Diagnosis, Prognosis; 3.Physical Agents; 4.Chemical Agents; 5.Biological Agents; 6.Mechanisms of Cellular Injury; 7.Tissue Repair Mechanisms; 8.General Pathology of Thermal Regulation; 9.General Pain Pathology; 10.General Immunity Pathology; 11.General Hypersensitivity Pathology; 12.General Tumor Pathology; 13.Systems: circulatory, respiratory, urinary; skeletal muscle; digestive; nervous; 14.Traumatic Pathology and BLS.

### Course contents (extended version)

1. CONCEPT OF GENERAL PATHOLOGY, HEALTH AND DISEASE:
  - Homeostasis;
  - Etiology, Pathogenesis, Morphopathology, Pathophysiology and Semiology;
  - Pathochrony and the natural history of the disease.
2. PATHOCHRONY, DIAGNOSIS AND PROGNOSIS:
  - Pathochrony stages and model;
  - Concept, stages and conditions of Diagnosis;
  - Concept of Prognosis, Prevention and Treatment.
3. PHYSICAL AGENTS AS A CAUSE OF DISEASE:
  - Mechanical agents;
  - Thermal agents.
4. CHEMICAL AGENTS AS A CAUSE OF DISEASE:
  - Concept of toxic agents and poisons and their classification;
  - Toxicokinetics and Toxodynamics;
  - Intoxication: types, effects and treatment.
5. BIOLOGICAL AGENTS AS A CAUSE OF DISEASE:
  - Bacteria, Viruses, Fungi and Parasites;
  - Classification and routes of transmission.
6. CELL INJURY MECHANISMS:
  - Concept of adaptation, injury and cell death;
  - Causes of cell injury.
7. TISSUE REPAIR MECHANISMS:
  - Healing: types, phases, process factors and treatment;
  - Inflammation.
8. GENERAL PATHOLOGY OF THERMAL REGULATION:
  - Concepts of hyperthermia, hypothermia and fever;
  - Etiology, pathogenesis and pathophysiology of fever;
  - Classification and treatment of fever.
9. GENERAL PATHOLOGY OF PAIN
  - Concept of pain and its medical importance;
  - Pain trajectory, its classification and semiology;
  - Taxonomy of pain.
10. GENERAL PATHOLOGY OF IMMUNITY:
  - Concept of immunity and its meaning; characteristics of antigen/antibody;
  - The mechanisms of immunity and types of immune response;
  - Immunodeficiency concepts.
11. GENERAL PATHOLOGY OF HYPERSENSITIVITY:
  - Concept, etiology, types of hypersensitivity;
  - Pathophysiology and syndromes of different types.
12. GENERAL PATHOLOGY OF TUMORS:
  - Fundamental concepts: neoplasia, tumor, cancer and carcinogenesis;
  - Etiology, pathophysiology, pathochrony and their classification;
  - Stages of carcinogenesis;
  - Tumor invasion: concept, phases, mechanisms and patterns of tumor dissemination;
  - Prevention, early diagnosis and treatment.
13. CIRCULATORY SYSTEM:
  - Cardinal manifestations and semiology of the most common diseases.
14. RESPIRATORY SYSTEM:
  - Cardinal manifestations and URINARY SYSTEM
15. URINARY SYSTEM
  - Semiology of the most common diseases.
  - Semiology of the most common diseases.
  - Cardinal manifestations and semiology of the most common diseases.
  - Cardinal manifestations and semiology of the most common diseases.
19. TRAUMATIC PATHOLOGY AND BLS

**Course contents (extended version)**

- Biomechanics of trauma and trauma semiology;
- Identify a CRP situation, apply the BLS algorithm in adults and children.

**Recommended reading**

1. Pinto, A. M. (2007). Fisiopatologia-Fundamentos e aplicações. Lisboa: LIDEL, Edições Técnicas.
2. Rubin, E., Gorstein, F., Rubin, R., Schwarting, R., & Strayer, D. (2006). Patologia: bases clinicopatológicas da medicina. Ed. Sarvier, Rio de Janeiro.
3. Sergio, J. Silveira, Coutinho, Isabel, & Marques, Sandra (Eds. ). (2002). Fundamentos de Patologia para Técnicos de Saúde (2ª ed. ): Lusociência
4. Santos, Dionei Alves & Arbigaus, Lindamir Pozzo. (2019). Fisiologia Geral (1ª ed. ): Indaial. UNIASSELVI.
5. INEM – Instituto Nacional de Emergência Médica & DFEM – Departamento de Formação em Emergência Médica. (2022). Manual de Suporte Básico de Vida Adulto e Pediátrico (1ªed. ):

**Teaching and learning methods**

1. Theoretical-Practical: - Expository type of programmed content, using methodologies for active student participation; - Group work carried out in classes; - Application of theoretical knowledge in practical classes in Basic Life Support.
2. Tutorial Guidance: guidance of students and clarification of doubts.

**Assessment methods**

1. Distributive Evaluation - (Regular, Student Worker) (Final)
  - Practical Work - 10% (Group work evaluation.)
  - Intermediate Written Test - 70% (Two written tests during the semester - minimum grade of 8.5.)
  - Intermediate Oral Test - 20% (Practical test during the semester.)
2. Final evaluation - (Regular, Student Worker) (Supplementary)
  - Final Written Exam - 80% (Written test - minimum grade of 8.5.)
  - Laboratory Work - 20% (Practical test.)
3. Final evaluation - (Regular, Student Worker) (Special)
  - Final Written Exam - 80% (Written test - minimum grade of 8.5.)
  - Laboratory Work - 20% (Practical test.)

**Language of instruction**

1. Portuguese
2. Portuguese, with additional English support for foreign students.

**Electronic validation**

Sara Isabel Alves Lucas	Maria Cristina Martins Teixeira	Ana Maria Nunes Português Galvão	Adília Maria Pires da Silva Fernandes
07-04-2024	20-05-2024	21-05-2024	22-05-2024