



## Course Syllabus

<b>Course Code</b>	<b>Course Title</b>	<b>ECTS Credits</b>
IMPH-112	Physiology and Pathophysiology/ Φυσιολογία και Παθοφυσιολογία	6
<b>Prerequisites</b>	<b>Department</b>	<b>Semester</b>
None	Health Sciences	Fall/Spring
<b>Type of Course</b>	<b>Field</b>	<b>Language of Instruction</b>
Compulsory	Pharmacy	Greek/English
<b>Level of Course</b>	<b>Lecturer(s)</b>	<b>Year of Study</b>
1 <sup>st</sup> Cycle	Dr Hadjiagapiou Maria	1 <sup>st</sup>
<b>Mode of Delivery</b>	<b>Work Placement</b>	<b>Corequisites</b>
Face-to-face	N/A	N/A

### Course Objectives:

This course will study the various human systems with an emphasis on the interdependencies between structure and function at both macroscopic and microscopic organization level. The aims of the course are to emphasize interrelationships of the human body systems, homeostasis and complementarily of structure and function. In particular, this course aims to outline the principles of human/mammalian physiology; general properties of the living cell and internal environment; neural, muscular, cardiovascular, respiratory, gastro-intestinal, renal and endocrine system; metabolism, reproduction and homeostasis. The course also provides students with the opportunity to practice measuring various physiological parameters.

The main objectives of the course are:

- To understand the terminology associated with anatomy and, in particular, the physiology of different systems.
- To offer an in-depth presentation of the function of the major organs and organ systems of the human body.
- Get an understanding of the anatomical and physiological structures of these systems through the use of anatomical models, histological specimens, computer simulations and animal model anatomy.
- To give an introduction of homeostasis principles and understanding of negative and positive feedback systems

- Provide the student with basic understanding of pathophysiology as a change from normal physiological functioning of the various systems of the human body. The course is based on illness and disease within a systems framework across the lifespan.
- Emphasize on select illnesses most often encountered by occupational therapists, rehabilitation specialists, and other health professionals.
- Focus on critical thinking used to analyse the signs and symptoms based on the pathophysiology of these conditions.

### **Learning Outcomes:**

After completion of the course students are expected to be able to:

- Use the appropriate terminology to identify and describe the anatomical structures and parts of the skeletal, muscular and nervous system of the human body.
- Distinguish and explain the interactions as well as the function of the muscle tissue and the skeletal system.
- Identify and explain the interdependence and function of the nervous system as well as how senses work.
- Report and link physiological functions with macroscopic and microscopic anatomy as well as maintaining homeostasis.
- Demonstrate basic skills in anatomy, and interpreting graphs from anatomical and physiological data.
- Understand the unique role of each organ and organ system in maintaining health.
- Describe the functions of the distinctive cells that comprise each major organ and when appropriate define the role of physiological functional units.
- Know the following areas of bodily function: Integration of the organ systems to maintain constancy of the internal environment.
- Regulation of homeostasis by neuronal, endocrine, and local chemical messengers.
- Role of the Autonomic Nervous System in regulating organ function.
- Apply physiological principles to understanding pathophysiological processes within the systems of the human body.
- Understand the differences between physiological functioning and processes in the various systems of the human body.
- Analyse the relationships among signs and symptoms and pathophysiological processes of selected illnesses and diseases in adults.
- Apply critical thinking to analyse presentations of signs and symptoms based on the underlying pathophysiological processes.

**Course Content:**

- Introduction to the Human Body
- Transfer Through Membranes
- Introduction to the Nervous System
- Central and Peripheral Nervous System
- Muscular system
- The blood
- The Immune System
- Cardiovascular System - The Heart
- Cardiovascular System - Vases
- Respiratory system
- Digestive system
- Metabolism and Absorption of Food
- Urinary system
- Endocrine System
- Reproductive system
- Common disease categories and terminology
- Common diagnostic methodology
- Clinical characteristics and effects of inflammation
- Basic immunology, hypersensitivity, and autoimmune disorders
- Pathogenicity, epidemiology, and control of infectious diseases
- Pathogenesis of congenital and genetic disorders
- Etiology and diagnosis of neoplastic diseases
- Pathogenesis of cardiovascular and circulatory diseases
- Pathogenesis of lymphatic disorders
- Etiology and pathogenesis of pulmonary diseases
- Pathogenesis and treatment of reproductive disorders
- Diseases of the gastrointestinal tract and accessory organs
- Basic endocrinology and endocrine disorders
- Types and pathogenesis of neurologic diseases
- Disorders of the musculoskeletal system
- Diseases of the urinary and renal systems
- Fluid, electrolyte, and acid/base imbalances
- Research and reporting on selected medical disorders

**Learning Activities and Teaching Methods:**

Lectures, class discussions, laboratory sessions/demonstrations, tutorials, assignments

**Assessment Methods:**

Final exam, Midterm exam, laboratory reports, assignment
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**Required Textbooks / Readings:**

Title	Author(s)	Publisher	Year	ISBN
Φυσιολογία του Ανθρώπινου σώματος (Τόμοι 1 και 2)	Gerard J. Tortora & S.R. Grabowski	Εκδόσεις ΕΛΛΗΝ	7η έκδοση	With main textbook
Pathophysiology for the Health Professions	Barbara E. Gould	Saunders Elsevier	2006	9781416002109
Παθολογική Φυσιολογία	Litsas	McPhee	2000	960-372-035-6
Ιατρική Φυσιολογία / Medical Physiology	Guyton C. Arthur/ John Hall	Παρισιάνου Α.Ε /Saunders 13 <sup>th</sup> edition	2017	978-960-583-175-2 978-1455770052

**Recommended Textbooks / Readings:**

Title	Author(s)	Publisher	Year	ISBN
Human Physiology – The mechanisms of body function	Vander	McGrow-Hill Companies	11th Edition	With main textbook
Pathophysiology for the Health Professions 3rd ed., Philadelphia, PA, Saunders Publishers, 2006	Saunders	McPhee	2006	

Παθολογική φυσιολογία	McPhee Stephen J, Μουτσόπουλος Χαράλαμπος Μ.	Ιατρικές Εκδόσεις Λίτσας	2000	9789603720355
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