

<b>ID</b>	2799
<b>Curricular Unit</b>	Anatomophysiology II
<b>Regent</b>	Maria Margarida Marques Rebelo Espanha

**Learning Outcomes**

The student:  
 Defines homeostasis and describes the homeostatic mechanism; Identifies the organic compartments [external and internal environment (vascular, interstitial and intracellular compartments)]; Characterizes morphologically and functionally the epithelial tissue and distinguishes its three types; Identifies the blood components and describes their general functions; Recognizes the structure of regulatory systems of internal organic life (Autonomic Nervous System and Endocrine System) and explains its operation; Describes the morphology of the different systems (cardiovascular, respiratory, digestive and urinary) that contribute to the maintenance of vital functions, identifies the respective functions and understands the physiological mechanisms of each system relating them to their structures; Handles the optical microscope; Knows how to measure blood pressure and arterial pulse; Develops observation skills, active learning, group work and critical and reflective thinking.

**Syllabus**

Homeostasis and the body compartments. Regulatory systems: the autonomic nervous system (anatomical and functional comparison between the sympathetic and parasympathetic divisions) and the endocrine system (hormonal mechanisms of action and regulation of hormone secretion. Endocrine glands, hormones and their physiological effects). Cardiovascular System - Heart: histological constitution; cardiac cycle: regulatory mechanisms of cardiac activity, cardiac parameters. Vascular system: blood pressure and arterial pulse, anatomy and physics of blood circulation. Respiratory System: Pulmonary ventilation, hematosis transport of gases, lung volumes and capacities and regulatory mechanisms. Digestive System: digestive organs and accessory organs. Digestive activities (ingestion, digestion, conduction, storage, absorption and elimination). Urinary System: Anatomy of the Kidney and nephron. The path of urine formation. Kidney functions: electrolyte and acid-base balance and excretion of wastes.

Expository oral presentation and interactive support slides is used interchangeably with the teaching-learning methods that intend to develop the construction of reasoning and critical thinking by asking questions and solving problems to be held in groups of two/three students.

Use of anatomical pieces, models, and posters for the anatomical study in groups of four/five elements.

## **Evaluation**

The continuous assessment comprises two components: 1) the theoretical syllabus through two written tests, weighted 90% and 2) attitudes and practical component, weighted 10%.

The theoretical assessment consists of two written tests with questions of different types and is in line with the different profiles and reasoning skills of the students: 1) questions true/false, multiple choice, matching, ordering, 2) identification questions, 3) interpretation of graphs and diagrams questions 4) open questions.

## **Bibliography**

- Espanha, M., Silva, P., Pascoal, A., Correia, P., & Oliveira, R. (2007). *Anatomofisiologia, Tomo III. Funções da Vida Orgânica Interna*. Lisboa: FMH.
- Espanha, M., Pascoal, A., & Correia, P. (2007). *Anatomofisiologia. Estudos Práticos II*. Lisboa: FMH.
- Wheater, P., Burkitt, H., Daniels V. (1987). *Functional histology: a text and colour atlas (2nd Ed.)*. Edinburgh: Churchill Livingstone.
- Wolfgang Kuhnel; tranl. by Henning M. Beier (1991). *Pocket atlas of cytology, histology, and microscopic anatomy, 3rd ed.* Stuttgart: Georg Thieme.
- Seeley, R. (2005). *Anatomia e Fisiologia*. Lisboa: Lusodidacta.
- Kapit, W.; Macey, R.I. & Meisami, E. (1987). *The Physiology Coloring Book*. New York: Harper & Row Ltd.
- Guyton, A. (1992). *Tratado de Fisiologia Médica (8ª ed.)*. Rio de Janeiro: Guanabara Koogan.
- Marieb, E. N. (1992). *Human anatomy and physiology (2nd Ed.)*. Amsterdam: The Benjamin/Cummings.