	SUBJECT DESCRIPTION	MODELO PED.015.02
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Enlata

Course	Pharmacy			Academic year	2020/2021		
Subject	Anatomy and Physiology			ECTS		6	
Type of course	Compulsory						
Year	First	Semester	2st sem	Student Workload:			
Professor(s)	Elsa Maria Pereira de Oliveira Cardoso			Total	162	Contact	T: 45 TP:22,5 PL:15
Area/Group Coordinator	Elsa Maria Pereira de Oliveira Cardoso						

Planned SD


1. LEARNING OBJECTIVES

- Describe the anatomy of the major systems and organs of the human body;
- Acquire physiology knowledge, in order to improve the understanding of the structure and function of tissues, organs, and human body systems;
- Apply concepts of Mechanics, Waves, Electricity and Radiobiology to examples related to biological systems;
- Promote the construction of critical thinking in areas of Anatomy and Human Physiology.

Major skills to acquire in this UC

• Specific skills:

- Analyze the various systems and organs of the human body in order to acquire accurate and objective knowledge about the functioning of the organ systems;
- Analyze the physiology of organ systems;
- Identify the application of fluid dynamics and osmotic phenomena in blood circulation;
- Apply concepts of waves, electricity and radiobiology in biological systems;
- Develop concepts about nerve conduction and information processing.

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Elu Buck

2. PROGRAMME

Theoretical program

Organization of the Human Body

- Introduction to the study of Anatomy. Anatomical terminology.
- Types of human body tissues.

Support and Movement

- Integumentary system.
- Osteology and arthrology.
- Myology. Bioelectricity of biological systems.
- Myology. Gross anatomy and physiology of movement: Biomechanics and Balance.

Integration and Control Systems

- Nervous System. Neurophysiology.
- The Senses. Sounds and bioacoustics.
- Endocrine System.

Regulation and Maintenance

- Blood.
- Hydrostatic and hydrodynamic in biological systems.
- Cardiovascular system. Biophysics circulation and fluid mechanics.
- Lymphatic system.
- Respiratory system.
- Digestive system.
- Urinary system.


Reproduction and Development

- Female and Male Sexual and Reproductive System. Embryological development.

Biological effects of ionizing radiation

Practical program

- Anatomy of locomotion: bones and muscles.
- Anatomy of the organs: anatomy of the heart, blood vessels; respiratory, digestive, urinary and reproductive organs.

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Ana Lúcia

3. COHERENCE BETWEEN PROGRAMME AND OBJECTIVES

In this CU students acquire knowledge about the basics of the human body functioning, in the context of the various systems and organs of the human body, with a view to understanding the changes caused by diseases in humans, which enable them to understand the various functions of cells, organs and organ systems and encourage an integrated understanding of the cellular pathological processes, contributing to the selection of the best therapeutic option.

The integrated contents of this curricular unity allow the acquisition of accurate and objective knowledge about various organ systems, on their roles and physical basis of biological systems by applying the knowledge acquired in solving problems of clinical nature, awakening their curiosity for biomedical research and recognize the need for an ongoing study to be continuously updated in the Health Sciences.


4. BIBLIOGRAPHY

Main Bibliography

- Cinnamon Vanputte, Jennifer Regan & Andrew Russo (2016). Anatomia e Fisiologia de Seeley (10. a Ed.). Mac GrawHill. ISBN: 9788580555882
- Elsa M. Cardoso. Sebenta das aulas teórico-práticas de Anatomia e Fisiologia – 1o ano Farmácia Instituto Politécnico da Guarda (2021).
- Elsa M. Cardoso. Sebenta das aulas laboratoriais de Anatomia e Fisiologia – 1o ano Farmácia Instituto Politécnico da Guarda (2021).

Complementar Bibliography

- Gomes, L. R., Biofísica para Ciências da Saúde, 1ªEd, Porto. Universidade Fernando Pessoa, 2005.
- Davidovits, P., Physics in Biology and Medicine, 3ª Ed, Harcourt Academic Press, 2008.
- Guyton, A. C., Hall, J. E., Tratado de fisiologia médica, 11ª Ed, Rio de Janeiro, Guanabara Koogan, 2006.
- Lima, J. J. P., Biofísica Médica, 1ªEd, Coimbra, Imprensa da Universidade de Coimbra, 2005. - Moore KL, Dalley AF, Agur AMR (2014) Anatomia orientada para a clínica (7ªEd). Nova Guanabara. ISBN: 9788527725170
- Netter, F. H., Atlas de Anatomia Humana, 4ªEd, São Paulo, Elsevier, 2008.

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Elaborado

5. TEACHING METHODOLOGIES (INCLUDING EVALUATION)

Continuous Assessment

The approval of curricular unity is achieved with a final grade of at least 10, on a scale of zero to twenty (0-20), according to the frequency assessment of the Health School.

Continuous assessment consists of making written three tests (frequency assessment) on the theoretical and theoretical-practical and practical contents. The classification is the arithmetic's mean of the three tests.

Final Assessment


If the student does not approve in the continuous assessment, he/she have to perform an exam about all the unity contents scheduled in defined dates. The evaluation of the exam, expressed on a scale of 0 to 20, is the final mark of the curricular unity.

6. COHERENCE BETWEEN TEACHING METHODOLOGIES AND OBJECTIVES

The teaching methodologies are consistent with the objectives of the curricular unity. Lectures with a more expositive methodology, although always participative, are the first approach of the contents, where students are encouraged to ask questions, and make reasoning based on their prior knowledge and also in the knowledge that they had been acquiring during the semester.

Problem solving, discussion of clinical cases based on the pathology *versus* anatomical/ physiologic dysfunction, emphasizing the principles of Evidence-Based Practice, allow the ability to develop scientific reasoning, integration of knowledge, and stimulate the critical thinking. Practical sessions, using anatomical models and anatomical images, atlases and videos allow simulation of contexts and anticipate real representations allowing the student to master the anatomical terminology and to have a precise notion of the descriptive and topographic anatomy of the constituent structures of the human body.

A gradual and sustained consolidation of the knowledge according to a model of continuous learning, improves the impact perception of the CU in professional practice.

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7. ATTENDANCE

Approval in this curricular unity (continuous assessment or final examination) require the participation and attendance, with mandatory attendance of at least 75% of theoretical-practical (TP) and practical classes.

8. CONTACTS AND OFFICE HOURS

Elsa Maria Pereira de Oliveira Cardoso: elsa.cardoso@ipg.pt

Office hours - Monday: 11-13h, Wednesday: 10:30-11:30h; Friday 9-10h, office 4

Date: 15/03/2021

Signatures



Area/Group Coordinator



Professor(s) Name(s)