Universitat Autònoma de Barcelona

2020/2021

Function of the Human Body

Code: 102992
ECTS Credits: 9

Degree	Type	Year	Semester
2500892 Physiotherapy	FB	1	A

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

Contact

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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Teachers

Joaquim Hernández Martín
Esther Udina Bonet
Raquel Moral Cabrera

Prerequisites

No official prerequisites are defined for this subject. However, it is recommended that the student has acquired the basic knowledge and competences of the subjects corresponding to Cell Biology, Biochemistry and Molecular Biology, and Biophysics.

Objectives and Contextualisation

The Function of the Human Body subject is programmed during the first course of the Degree of Physiotherapy and develops the knowledge of the basic principles of the function of systems of the human organism. The acquisition of the competences of this subject will allow the student to understand the function of normal systems and be well prepared to confront the mechanisms of the pathologies that afect these systems, and the therapeutic strategies that could improved it.

The general training objectives of the subject are:

- To know the basic concepts of the Physiology of the different functional systems of the healthy human organism.
- To acquire an integrated vision of the interrelations of the different systems of the organism
- To integrate the Physiology knowledge with concepts learned in other basic subjects, that deal with the structure and the cellular and molecular aspects of the organism.
- To train the student to apply the physiological knowledge in deducting the consequences of the diseases.
- To acquire practical skills for performing the most frequent functional tests in the biomedical and physiotherapy field.

- To acquire attitudes aimed at the promotion of health and the prevention of disease, oriented towards health medicine, and appropriate for a medical practice based on scientific evidence.

Competences

- Analyse and synthesise.
- Develop independent learning strategies
- Display knowledge of the morphology, physiology, pathology and conduct of both healthy and sick people, in the natural and social environment.
- Display knowledge of the sciences, models, techniques and instruments around which physiotherapy is structured and developed.
- Solve problems.

Learning Outcomes

1. Analyse and synthesise.
2. Develop independent learning strategies
3. Explain the functioning of the the human body in health in order to have a sound basis for understanding the processes that induce disease.
4. Explain the fundamental biochemical principles of the functioning of the human body.
5. Identify life-threatening situations and perform basic and advanced life support manoeuvres.
6. Identify physiological and structural changes that can take place as a result of the injury and/or disease process in the different systems.
7. Solve problems.

Content

General and Cellular Physiology (Esther Udina)

Physiology of blood and haematopoietic organs (Mireia Herrando)

Physiology of the cardiovascular system (Joaquim Hernàndez i Esther Udina)

Pysiology of the respiratory system (Joaquim Heràndez)

Pysiology of the renal system and body liquids (Mireia Herrando)

Physiology of the digestive system and nutrition (Mireia Herrando)

Physiology of the endocrine system (Raquel Moral)

Physiology of the reproductive system (Raquel Moral)

Neurophysiology and physiology of the special senses (Esther Udina)

Adaptation of the organism to environmental changes (Joaquim Hernàndez)

Methodology

Theoretical classes:

Systematized presentation of the subject, relevance giving the most important concepts. The student acquires the basic knowledge of the subject in theory classes, which are complemented by personal study of the topics of the assignment program.

Laboratory practices:

Practice sessions for the observation and performance of procedures, the practical learning of physiological techniques and their application. It promotes group work and active self-learning.

Case work:

Work on cases or problems of relevance for the learning of the subject. The knowledge acquired in theory classes, practices and personal study is applied to the resolution of practical cases that are posed in a way applicable to the environment of the subject.

Tutored teaching:

Availability of support tutorials for the study and independent development of physiological concepts and application to case resolution throughout the semester.

Directed activities (35%=74,5h)	Theoretical classes with audiovisual support
	Laboratori Practicals
Supervised activities (10%=22,5h)	Resolution of clinical cases
Autonomous activities (55%= 114 hores)	Research and treatment of complementary information to the theoretical knowledgments of the directed activities
	Preparation of the clinical cases and practicals
	Study of the contents and realization of schemes, conceptual maps, reviews...

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
LAB PRACTICE	14.5	0.58	1, 2, 3, 4, 6, 5, 7
THEORY	64	2.56	1, 3, 4, 5
Type: Supervised			
SUPERVISED	22.5	0.9	1, 2, 3, 4, 6, 5, 7
Type: Autonomous			
SELF STUDY	114	4.56	1, 2, 3, 4, 6, 7

Assessment

The competences of this subject will be evaluated by means of objective written tests of the subject and cases ar

Continued Avaluation

During the course, three blocks will be evaluated that will include the following contents:

BLOCK 1 (General and cellular physiology, Physiology of the blood and hematopoietic organs, Physiology of the

BLOCK 2 (Physiology of the respiratory system, Physiology of the excretory system and body fluids, Physiology o

BLOCK 3 (Physiology of the reproductive system, Physiology of the nervous system, Adaptation of the organism

The continuous evaluation of each BLOCK will consist of two components:

1. Partial examination of each block, which will include:

- multiple choice items to assess
THEORETICAL KNOWLEDGE of the subject (
55% of the overall grade of the BLOCK).

- multiple choice items and / or written / short questions where the knowledge acquired in the
CASES WORK will be evaluated, as well as the ABILITY TO INTEGRATE these with the theoretical knowledge (
30% of the overall grade of the block).

The mark of each partial exam will correspond to 85% of the final mark of each BLOCK.

2. Tests on the knowledge imparted in laboratory practices:

- Evaluation by means of Moodle questionnaire of the concepts acquired previous to the realization of the p
5% of the global note of the BLOCK).

- On-site evaluation of the laboratory practices and / or questionnaires carried out in the Moodle space,
10% of the overall grade of the BLOCK).

TO PASS EACH BLOCK and thus be able to release a subject, the student must take a minimum of 4.0 in each subsection of the partial exam (test exam and short question exam) and an average mark of 5 for each block. In the event that the student does not meet both requirements (minimum grade of 4.0 in each subsection and average of 5.0 for each block), he will not release that block and will have to take a final recovery exam. The final retake exam will also consist of three blocks, with a format equivalent to that of the partial exams, and the student will only have to take the blocks that he has not released. Students who have passed the continuous assessment of the subject and wish to take the final exam to improve the grade must apply on the dates specified in the call. The final grade will correspond to the highest grade obtained between the continuous assessment or the final resit exam.

TO PASS THE SUBJECT, the student must obtain a minimum grade of 4.0 from each subsection of the partial ex

The final mark of the subject will be the average of the three blocks, and in the event that the average was higher

In no case will the grade of any block be saved from one year to the next.

Students who do not take any of the scheduled exam sessions in an assessment call will be considered "non-ass

Following the publication of the grades for each block and the final grades, a review will be convened so that stud

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Assessment of the preparation and resolution of cases or problems and their integration into theoretical-practical knowledge through short written questions and / or multiple choice questions	30%	3	0.12	1, 2, 3, 4, 6, 5, 7
Assessment of knowledge and skills acquired in relation to laboratory practices using Moodle questionnaires and / or written tests in situ	15%	1	0.04	1, 2, 3, 4, 6, 5, 7
Assessment of theoretical knowledge through objective tests of multiple answers	55%	6	0.24	1, 2, 3, 4, 6, 5, 7

Bibliography

- Tortora GJ, Derrickson B. Principios de Anatomía y Fisiología. (15ª ed). Editorial Médica Panamericana, 2018. Link from Servei de Biblioteques UAB: https://cataleg.uab.cat/iii/encore/record/C__Rb2072347

- Constanzo LS, Fisiología (6a Ed). Elsevier-Saunders, 2018

- Thibodeau GA, Patton KT. ***Anatomía y Fisiología*** (6ª ed). Elsevier, 2007.

- Tresguerres AF, Villanúa MA, López-Calderón A. ***Anatomía y fisiología del cuerpo humano***. Mc Graw HIll, 2009

- Koeppen B and Stanson B. ***Berne and Levy physiology*** (7th ed). Elsevier 2017.

- Paulev PE, Zubieta G. New Human Physiology, 2nd ed. https://www.zuniv.net/physiology/book/

To consult

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- Tresguerres JAF. ***Fisiología Humana*** (4ª ed.). Mc Graw Hill-Interamericana, 2010.