

25606 - Human physiology

Syllabus Information

Academic year: 2023/24

Subject: 25606 - Human physiology

Faculty / School: 127 - Facultad de Ciencias de la Salud

Degree: 605 - Degree in Physiotherapy

ECTS: 6.0

Year: 1

Semester: First semester

Subject type: Basic Education

Module:

1. General information

This subject deals with the intensive study of human physiology, considering the human being as an integrated whole. In addition, the pathophysiological bases that cause disease are studied in relation to the contents, cited.

It is advisable that the student remembers or acquires the contents of Chemistry, Biology and Physics of the Baccalaureate. It is recommended to keep the study of the subject up to date in order to advance in knowledge based on what has been previously learned.

These approaches and objectives are aligned with the following Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda (<https://www.un.org/sustainabledevelopment/es/>), in such a way that the acquisition of the learning results of the subject provides training and competence to contribute to some extent to the achievement of Goal 3 (Health and well-being)

2. Learning results

Upon completion of this subject, the student will be able to:

-Know the concept of homeostasis and apply it to understand the dynamic relationship between the actions of the different tissues, organs and systems of the human body.

-Describe the general principles of tissue function and the most common processes: intercompartmental exchange, nervous and endocrine communication.

-Explain the basic mechanisms of the functioning of organs, apparatus and systems (homeostasis, blood, cardiovascular, respiratory, digestive, renal, endocrine, reproductive, nervous and locomotor).

-Know the different systems of regulation of function, their mechanisms of action and the relationship between them. -Is able to explain the variations of function throughout the stages of life.

-Know the normal range of values for the main physiological parameters and recognize variations in human body functions depending on gender and age.

-Describe and use some common techniques for measuring the function in humans.

-Analyse the function of each division of the human body from the molecular, cellular, tissue, organ and system levels; integrate it into the functioning of the whole organism.

-Apply physiological knowledge to interpret and analyse the integrated responses of the organism necessary for its adaptation to internal or external environment.

-Apply physiological knowledge to the understanding of function alterations (origin of the disease).

3. Syllabus

THEORETICAL PROGRAM

General physiology

Nervous system physiology

Physiology of muscle contraction

Blood physiology

Physiology of the endocrine system

Physiology of the cardiovascular system

Physiology of the renal system

Physiology of the respiratory system

Physiology of the digestive system

PRACTICAL PROGRAM

Functional tests:

Exploration of the nervous system
Exploration of the blood system
Exploration of the endocrine system
Exploration of cardiac electrical activity (ECG)
Blood pressure scan
Exploration of the renal system
Exploration of pulmonary function
Simulation of the digestive system

PBL Seminars:

PBL: Physiology of the nervous, musculoskeletal and endocrine systems.
PBL: Physiology of the blood system, cardiovascular-renal and respiratory systems

4. Academic activities

- **Participative master classes (40 h):** The basic theoretical knowledge of the subject is presented, by directing it towards the acquisition of competencies and learning results. The aim is to provide these activities with great dynamism, promoting the student's participative attitude during them.

- **Practical classes (20 h)** including:

a) Functional tests (16 h): examinations will be carried out in small groups in the laboratory, classroom or computer science classroom. Some sessions may take place in the afternoon and/or at other centres. Some of these sessions will require a lab coat, to be provided by the student.

b) PBL Seminars (4 h): simple problems will be solved to develop the capacity for integration and application of theoretical knowledge.

- **Autonomous works:** They will consist of carrying out work through the ADD (Anillo Digital Docente)

- **Assessment tests:**

- **Tutorials**

5. Assessment system

- **Continuous evaluation**

A) Written test (70%): There will be two written tests. Each will consist of two parts:

-Multiple choice questions: 25 five-choice questions, with a single answer. It will be passed (5) with 15 correct answers.

-Short questions: 5

Each part represents 50% of the test grade. The tests will be passed by obtaining a 5. However, it may be compensated with a 4.5 provided that the arithmetic mean of the tests is at least a 5.

B) Functional tests (15%). It will be evaluated by means of a rubric

C) PBL Seminars (10%). To be evaluated by observational scale

D) Autonomous work (5%). It will be evaluated through activities in the ADD.

To be eligible for this evaluation system, students must attend 80% of the theoretical and practical classes, regardless of the date of enrolment in the degree program.

Students who do not attend at least 80% of the practical sessions or do not pass them will be evaluated by exam.

- **Single test**

It will be held on First and Second call dates. Students who have not passed the continuous evaluation or any of the written tests may sit for this test. The written tests will only be saved for the first call.