Universidad Zaragoza

Academic Year/course: 2023/24

26002 - Human physiology

Syllabus Information

Academic year: 2023/24
Subject: 26002 - Human physiology
Faculty / School: 127 - Facultad de Ciencias de la Salud
Degree: 276 - Degree in Occupational Therapy
ECTS: 6.0
Year: 1
Semester: Annual
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 2030 of the United Nations (https://www.un.org/sustainabledevelopment/es/), in such a way that the acquisition of the 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:

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

2. Describe the general principles of tissue function and of the most common processes: exchange between compartments, nervous and endocrine communication.

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

4. Know the different systems of regulation of function, their mechanisms of action and the relationship between them.

5. Explain variations in function throughout the stages of life.

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

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

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

9. Applying physiological knowledge to interpret and analyse the integrated responses of the organism necessary for its adaptation to changes in the internal or external environment.

10. Apply physiological knowledge to the understanding of the alterations of function (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:

Nervous exploration I: somatic nervous system

Nerve exploration II: special senses

Nerve exploration III: motor reflexes

Blood typing and leukocyte formula

Blood pressure scan

Electrocardiogram

Spirometry

PBL Seminars:

PBL: Nervous system and skeletal muscle physiology.

PBL: Physiology of the endocrine system and blood.

PBL: Physiology of the cardiovascular-renal and respiratory system

4. Academic activities

Participative master classes (40 h): The basic theoretical knowledge of the subject is presented, 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 the activities. **Practical classes (20 h)** including:

a) Functional tests: examinations will be performed in the laboratory, practice room or classroom.

b) PBL Seminars: simple problems will be solved to develop the ability to integrate and apply theoretical knowledge.

Autonomous work and personal study (87 h): They will consist of the completion of work through the ADD (Anillo Digital Docente) and personal study.

Assessment

Tutorials

5. Assessment system

Continuous Assessment

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. 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, may be compensated with a 4.5 provided that the arithmetic mean of the tests is at least a 5.

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

C) PBL Seminars (10%). They will be evaluated by means of a rubric.

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

The student who has passed the subject by continuous evaluation will not need to be evaluated in official calls for exams.

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.

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 the official dates of the first and second call. Continuous evaluation students who have not passed section A may take this test with the pending midterm exams. The passed midterm will be saved only for the first call. The test will consist of 2 sections, one for each midterm divided into 25 multiple-choice questions, 5 options, single answer, and 5 short questions.

In the second call, no midterm exams will be held, so in order to pass part A, a single test of 50 multiple-choice questions and 10 short questions will be taken.

Sections B, C and D, if passed will be saved in both first and second call. Otherwise, a written evaluation of each of the sections will be carried out.