

29301 - Human General Physiology

Syllabus Information

Academic year: 2023/24

Subject: 29301 - Human General Physiology

Faculty / School: 229 - Facultad de Ciencias de la Salud y del Deporte

Degree: 442 - Degree in Odontology

ECTS: 6.0

Year: 1

Semester: Second semester

Subject type: Basic Education

Module:

1. General information

The subject and its expected results respond to the following approaches and objectives: Students should know the biophysical, biochemical and biological processes that take place in the healthy human being and how they are integrated, in order to explain the mechanisms of the regulated and coordinated functioning of the different systems of the human body. Ultimately, the aim is to provide the basis for understanding the normal function of the human body, as well as the possible causes of disease.

These objectives are aligned with Goal 3 Health and well-being of the Sustainable Development Goals (SDGs) of the United Nations Agenda 2030.

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 that compose 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 function regulation, their mechanisms of action and the relationship between them. - 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 the functions of the human body depending on gender and age.

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

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

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

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

3. Syllabus

THEORETICAL PROGRAM

General Physiology

Nervous System Physiology

Physiology of muscle contraction.

Blood Physiology and Immunity

Endocrine Physiology

Cardiovascular Physiology

Respiratory Physiology

Renal and urinary tract physiology

Physiology of the Digestive System

PRACTICAL PROGRAM

Laboratory of physiology and functional tests.

Nerve exploration: sensitivity, special senses and motor system.

Exploration of the blood system
Exploration of the cardiovascular system
Examination of the respiratory and renal system

Seminar program and problems

ABP01: General-Nervous
ABP02: Blood-Endocrine
ABP03: Cardiovascular
ABP04: pH
ABP05: Respiratory-Renal

4. Academic activities

The proposed activities focus on the understanding and assimilation of the fundamental principles of physiology, as well as the integration and regulation of the different systems.

The program offered to the student to help them achieve the expected results includes the following activities

- 1.- Participative master class (1'6 ECTS - 40 hours).
- 2.- Laboratory Practices/Seminars (0'4 ECTS - 10 hours).
- 3.- Problem solving and case studies (0'4 ECTS - 10 hours).
- 4.- Autonomous work (3'3 ECTS - 84 hours)
- 5.- Evaluation tests (0'24 ECTS - 6 hours).
- 6.- Tutoring and personalized attention.

5. Assessment system

1.- Continuous evaluation

A) Written test (70%). There will be two written tests, each consisting of two parts: -Multiple choice questions: 25 five-choice, single-answer questions. Correct questions will add 0.20 points each and wrong questions will subtract 0.05 points. -Short questions: 5. Each part represents 50% of the test grade. The tests will be passed by obtaining a 5. However, a grade of 4.5 can be compensated as long as the arithmetic mean of the two tests is at least a 5.

B) Practices (10%). It will be evaluated by means of a rubric

C) Problem seminars (10% of the final grade). It will be evaluated by means of an observational scale.

D) Activities (10% of the final grade). It will be evaluated through Moodle.

-To be eligible for this evaluation system, students must attend 80% of the theoretical and practical classes. Students who do not attend at least 80% of the practical sessions will be evaluated by exam.

2.- Single test

It will be held on the dates of the first and second call. Students who have not passed the continuous evaluation or any of the partial tests may sit for this test. Passed midterm exams will only be kept in the first call.