COURSE DATA

Data Subject	
Code	43092
Name	Physiology of ageing
Cycle	Master's degree
ECTS Credits	4.0
Academic year	2021 - 2022

Study (s)

Degree	Center	Acad. year	Period
2141 - Master's Degree in Physiology	Faculty of Medicine and Odontology	1	Second term

Subject-matter

Degree	Subject-matter	Character
2141 - Master's Degree in Physiology	5 - Optional subject	Optional

Coordination

Name	Department
BORRAS BLASCO, CONSUELO	190 - Physiology
VIÑA RIBES, JOSE	190 - Physiology

SUMMARY

The teaching of the Physiology of aging has as a general objective the knowledge of physiological modifications of the organism and of the physical and chemical laws that govern these functions; the acquisition of the necessary methodology for its study; and the development of skills in the maintenance of health, prevention and treatment of a growing sector of the population, the elderly.

In this subject, the functional modifications of different organs and systems of the organism with aging and the changes that they experience in elderly men and women are studied.

The Physiology of aging has great importance for the study of preventive and curative medicine.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

COMPETENCES (RD 1393/2007) // LEARNING OUTCOMES (RD 822/2021)

2141 - Master's Degree in Physiology

- Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.
- Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.
- Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.
- Students should demonstrate self-directed learning skills for continued academic growth.
- Students should possess and understand foundational knowledge that enables original thinking and research in the field.
- Know how to write and prepare presentations to present and defend them later.
- To acquire a critical attitude that allows you to make reasoned judgments and defend them with rigor and tolerance.
- Search, order, analyze and synthesize scientific information (databases, scientific articles, bibliographic repertoires), selecting the pertinent to focus current knowledge on a topic of scientific interest in Physiology.
- Assess the need to complete the scientific training, in languages, computer science, ethics, etc., attending conferences or courses and/or carrying out complementary activities, self-evaluating the contribution that the performance of these activities implies for their comprehensive training.
- Recognize the modifications of the different devices and systems during aging and describe the different applications for the prevention and treatment of diseases associated with aging.

LEARNING OUTCOMES (RD 1393/2007) // NO CONTENT (RD 822/2021)

-To understand and describe the functions of the systems and apparatus of the healthy human organism in their different levels of organization, as well as their modifications associated with aging.

-To know the modifications of the different devices and systems during aging.

- To differentiate the different applications for the prevention and treatment of diseases associated with aging.

-To apply different approaches in aging research.

-To assess the physiological changes that occur during aging.

-To develop intervention strategies aimed at treating the modifications pathophysiological that occur during aging.

DESCRIPTION OF CONTENTS

1. Introduction to aging

Concept of aging
Theories of aging
Bioamarkers of aging and longevity
Oxidative stress parameters
Genetics and aging

2. Iinterventions in aging

Physiological interventions
Physical exercise
Nutritional interventions
Genetic interventions

3. Diseases related to aging

Frailty
* Sarcopenia
Alzheimer's disease

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	24,00	100
Tutorials	3,00	100
Development of individual work	20,00	0
Study and independent work	15,00	0
Readings supplementary material	7,00	0
Preparation of evaluation activities	15,00	0
Preparing lectures	6,00	0
Resolution of case studies	10,00	0
TOTAL	**100,00**	

TEACHING METHODOLOGY

- Theoretical classes of participative master lesson.

- Conferences of experts in the subjects.

- Debate and guided discussion on the work carried out.

- Face-to-face and electronic tutorials with teachers.

EVALUATION

Evaluation system:

- Written exam consisting of development questions: evaluation up to 10 points.

Minimum passing grade: 5 points.

REFERENCES

Basic

- Guyton AC, Hall JE (2011). Tratado de Fisiología Médica. 13ª ed. Madrid. Ed. Elsevier.
- Paola S. Timiras (1997) Bases fisiológicas del envejecimiento y geriatría. 2ª ed. (traducida). Barcelona. Ed. Masson.

- Enlace de interés: Sociedad Española de Geriatría y Gerontología www.segg.es/

ADDENDUM COVID-19

This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council

ONLY IF FACE-TO-FACE TEACHING IS NOT POSSIBLE:

1. Contents

The contents included in the guide are maintained.

2. Volume of work and temporary planning of teaching

The weight of the different activities that add the hours of dedication in ECTS credits marked in the teaching guide is maintained.
Scheduled teaching dates and times are maintained.

3. Teaching methodology

Both theoretical and practical topics and tutorials will take place virtually.

4. Evaluation

The evaluation system of the teaching guide is maintained, but with the realization of the exam online on the day and time foreseen in the exam schedule approved in the degree. In addition, work carried out during the course will be evaluated.

5. Bibliography

The bibliography recommended in the teaching guide is maintained.