Teaching Guide				
Identifying Data				2021/22
Subject (*)	Human Physiology		Code	750G02101
Study programme	Grao en Podoloxía			
Descriptors				
Cycle	Period	Year	Type	Credits
Graduate	Yearly	First	Basic training	9
Language	SpanishGalicianEnglish			
Teaching method	Face-to-face			
Prerequisites				
Department	Fisioterapia, Medicina e Ciencias Biomédicas			
Coordinador	Sangiao Alvarellos, Susana	E-mail	susana.sangiao@udc.es	
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Web	campusvirtual.udc.gal/			
General description	The objective of this subject is to help the student to know and understand the physiological processes that take place in the human body. The student must assimilate and integrate various physiological concepts and with them build their notion about the functioning of the organism. In order to get it, we will work to understand the processes that take place in the different organs and systems, as well as the relationships that exist between them, and between them and the external environment. According to the Memory of the Degree in Podology, the descriptor of this subject is: Know the subjects of biophysics, physiology and biochemistry related to the human body. Immediate principles. Biochemistry and biophysics of the membranes, muscles and nerves. Acquire and know the functions and regulation of the different organs and systems of the human body.			
Contingency plan	1. Modifications to the contents 2. Methodologies *Teaching methodologies that are maintained *Teaching methodologies that are modified 3. Mechanisms for personalized attention to students 4. Modifications in the evaluation *Evaluation observations: 5. Modifications to the bibliography or webgraphy			

Study programme competences	
Code	Study programme competences
A68	CE4 - Coñecer a biofísica, fisioloxía, bioquímica, funcións e regulación dos distintos órganos e sistemas do corpo humano e os principios inmediatos
B25	CB3 -- Que os estudantes teñan a capacidade de reunir e interpretar datos relevantes (normalmente dentro da súa área de estudo) para emitir xuízos que inclúan unha reflexión sobre temas relevantes de índole social, científica ou ética
B26	CB4 -Que os estudantes poidan transmitir información, ideas, problemas e solucións a un público tanto especializado como non especializado
B27	CB5 -Que os estudantes desenvolvesen aquelas habilidades de aprendizaxe necesarias para emprender estudos posteriores cun alto grao de autonomía

B29	CG02 - Coñecer a estrutura e función do corpo humano en especial da extremidade inferior, semioloxía, mecanismos, causas e manifestacións xerais da enfermidade e métodos de diagnóstico dos procesos patolóxicos médicos e cirúrxicos, interrelacionando a patoloxía xeral coa patoloxía do pé.
B35	CG08 - Adquirir habilidades de traballo nas contornas educativo e investigador, asistencial-sanitario, así como en equipos uniprofesionais e multiprofesionais. Asesorar na elaboración e execución de políticas de atención e educación sobre temas relacionados coa prevención e asistencia podolóxica
B39	CG12 -Capacidade para a cooperación, o traballo en equipo e a aprendizaxe colaborativo en contornas interdisciplinares
C9	CT01 - - Expresarse correctamente, tanto de forma oral como escrita, nas linguas oficiais da comunidade autónoma
C11	CT03 - Utilizar as ferramentas básicas das tecnoloxías da información e as comunicacións (TIC) necesarias para o exercicio da súa profesión e para a aprendizaxe ao longo da súa vida
C12	CT04 -Desenvolver o exercicio dunha cidadanía respectuosa coa cultura democrática, os dereitos humanos e a perspectiva de xénero
C14	CT06 -Adquirir habilidades para a vida e hábitos, rutinas e estilos de vida saudables
C15	CT07 - Desenvolver a capacidade de traballar en equipos interdisciplinares ou transdisciplinares, para ofrecer propostas que contribúan a un desenvolvemento sustentable ambiental, económico, político e social

Learning outcomes			
Learning outcomes	Study programme competences		
Provide enough knowledge to understand and describe the functions of the systems and apparatus of the healthy organism in its different levels of organization, and the integration processes that give rise to homeostasis. All this as a basis for the subsequent understanding of the pathophysiology and the mechanisms of disease production, the bases of therapeutics and the means for the maintenance and prevention of health.	A68	B25 B26 B27 B29 B35 B39	C9 C11
To know the subjects of biophysics, physiology and biochemistry related to the human body. Immediate principles. Biochemistry and biophysics of the membranes, muscles and nerves. Acquire and know the functions and regulation of the different organs and systems of the human body.	A68	B25 B26 B27 B29 B35 B39	C9 C11 C12 C14 C15

Contents	
Topic	Sub-topic
INTRODUCTION TO PHYSIOLOGY	Introduction. The cell. The water and the internal environment. Homeostasis and control systems. Diffusion. Osmosis. Mechanisms by which the substances pass through the cell membrane. Excitable cells. Membrane and action potential. Propagation of the action potential.
NERVOUS SYSTEM	General description of the nervous system. Central Nervous System. Peripheral nervous system. General characteristics of the neuron. The synapse. Sensory systems. Attributes of sensations. Organization of sensory systems.
MUSCULAR SYSTEM	Types of muscle fibers. The skeletal muscle. The contractile cycle: excitation-contraction coupling in skeletal muscle. The neuromuscular junction.
BLOOD AND IMMUNITY	Functions and composition of blood. Physiology of erythrocytes. Physiology of leukocytes. Hemostasis and coagulation. Blood groups.
CARDIOVASCULAR SYSTEM	Generalities of the cardiovascular system. The pacemaker cells. Driving the action potential in the heart. The electrocardiogram. Cardiac cycle: electrical and mechanical events.
RENAL SYSTEM	General characteristics of renal function. Main functions and structure of the kidneys. Renal circulation. Glomerular filtration, resorption and secretion.

RESPIRATORY SYSTEM	Introduction to the respiratory system. Mechanics of pulmonary ventilation. Volumes and lung capacities. Exchange and gaseous transport.
DIGESTIVE SYSTEM	General characteristics of the digestive system. Basic mechanisms of motility. Basic mechanisms of secretion. Digestion and absorption.
ENDOCRINE SYSTEM	General characteristics of hormones. Secretion and transport by blood. Action mechanisms. The hypothalamus and the hypophysis. Pancreas. Thyroid gland. Kidney glands. Sex hormones.

Planning				
Methodologies / tests	Competencies	Ordinary class hours	Student?s personal work hours	Total hours
Guest lecture / keynote speech	A68 B25 B27 B29 C9 C11 C14 C15	67.5	135	202.5
Supervised projects	A68 B26 B27 B29 B35 B39 C9 C11 C12	18.5	0	18.5
Mixed objective/subjective test	A68 B25 B29 C9	4	0	4
Personalized attention		0	0	0
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	Description
Guest lecture / keynote speech	Oral presentation (using audiovisual material and student interaction) designed to transmit knowledge and encourage learning. Presentations of this type are variously referred to as ?expository method?, ?guest lectures? or ?keynote speeches?. (The term ?keynote? refers only to a type of speech delivered on special occasions, for which the lecture sets the tone or establishes the underlying theme; it is characterised by its distinctive content, structure and purpose, and relies almost exclusively on the spoken word to communicate its ideas.)
Supervised projects	Training activity oriented to the application of learning, in which different methodologies and tests can be combined, through which the student develops tasks on a specific topic, with support and supervision of the teaching staff.
Mixed objective/subjective test	Mixed test consisting of essay-type and objective test questions. Essay section consists of open (extended answer) questions; objective test may contain multiple-choice, ordering and sequencing, short answer, binary, completion and/or multiple-matching questions.

Personalized attention	
Methodologies	Description
Supervised projects	Personalized attention will be made through personalized direct and virtual tutoring.

Assessment			
Methodologies	Competencies	Description	Qualification
Mixed objective/subjective test	A68 B25 B29 C9	Proba que integra preguntas tipo de probas de ensaio e preguntas tipo de probas obxectivas. En canto a preguntas de ensaio, recolle preguntas abertas de desenvolvemento. Ademais, en canto preguntas obxectivas, pode combinar preguntas de resposta múltiple, de ordenación, de resposta breve, de discriminación, de completar e/ou de asociación.	80
Supervised projects	A68 B26 B27 B29 B35 B39 C9 C11 C12	Os alumnos realizarán exercicios relacionados coas clases maxistrais e presentación orais relacionadas con algún tema da materia. Isto, xunto coa realización de seminarios, suporá o 20% da cualificación final.	20

Assessment comments

Assessment systems: First and second opportunity: Mixed objective/subjective test that will address the course syllabus (80% of the final grade) and supervised projects (20%). Advanced opportunity: Mixed objective/subjective test that will address the course syllabus.Partial enrollment: The students with partial enrollment will be evaluated of an individualized way, taking into account each individual case. It is recommended that students contact the teachers as quickly as possible.Not presented: It will be considered "not presented" to any student who does not attend any of the mixed objective/subjective test.Honor/special distinction: Students will be awarded the highest scores if they score excellent qualifications.Qualification systems: Numeric from 0 to 10, with 10 maximum qualification and 5 approved. The qualification system shall be expressed by numerical qualification in accordance with the provisions of art. 5 of Royal Decree 1125/2003 of September 5 (BOE / BOE September 18), establishing the European system of credits and the system of qualifications in university degrees of official character and valid throughout the national territory. Qualification system: 0-4.9 = Suspense 5-6.9 = Approved 7-8.9 = Notable 9-10 = Outstanding 9-10 Honor.

Sources of information	
Basic	- Guyton y Hall (2016). Tratado de Fisiología Médica. Elsevier - Silverthorn (2014). Fisiología humana: un enfoque integrado. Médica panamericana - Berney Levi (2018). Fisiología. Elsevier - Gary A. Thibodeau e Kevin T. Patton (2009). Anatomía y Fisiología. Harcourt - Boron, Walter F. (2017). Fisiología Médica. Elsevier - Fox, Stuart (2017). Fisiología Humana. McGraw-Hill - Tresguerres, J.A.F. (2010). Fisiología humana. McGraw-Hill https://www.udc.es/gl/biblioteca/recursos_informacion/libros_electronicos/libreria-pons_0001/ https://www.udc.es/gl/biblioteca/recursos_informacion/libros_electronicos/libreria-pons_0001/
Complementary	

Recommendations
Subjects that it is recommended to have taken before
Subjects that are recommended to be taken simultaneously
Subjects that continue the syllabus
Other comments
Recommendations Sustainability Environment, Person and Gender Equality:To help achieve an immediate sustainable environment and meet the objective of action number 5: "Healthy and sustainable environmental and social teaching and research" of the "Green Campus Ferrol Action Plan":1.- The delivery of the documentary works that are made in this matter will be done through Moodle, in digital format without the need to print them2.- The importance of the ethical principles related to the values of the sustainability in the personal and professional behaviors must be taken into account3. It will facilitate the full integration of students who for physical, sensory, psychological or socio-cultural reasons, experience difficulties to a suitable, equal and profitable access to university life

(*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.