



## Teaching Guide

Identifying Data					2024/25
Subject (*)	Physiology		Code	661G01105	
Study programme	Grao en Enfermaría				
Descriptors					
Cycle	Period	Year	Type	Credits	
Graduate	Yearly	First	Basic training	12	
Language	SpanishGalicianEnglish				
Teaching method	Face-to-face				
Prerequisites					
Department					
Coordinador	Gómez Tellado, Manuel	E-mail	manuel.tellado@col.udc.es		
Lecturers	Gómez Tellado, Manuel	E-mail	manuel.tellado@col.udc.es		
Web	campusvirtual.udc.gal/				
General description	The purpose of this subject is to approach the knowledge and understanding of the function of the systems of the human organism in an integrated way, that is, the mechanisms that the organism uses to keep in balance all its functions and the interrelationships between them. Understand the alterations that occur when physiological compensation mechanisms fail and their manifestations.				

## Study programme competences / results

Code	Study programme competences / results
A1	Coñecer e identificar a estrutura e función do corpo humano.
A2	Comprender as bases moleculares e fisiolóxicas das células e os tecidos.
A11	Coñecer os procesos fisiopatolóxicos e as súas manifestacións e os factores de risco que determinan os estados de saúde e enfermidade nas diferentes etapas do ciclo vital.
B1	Aprender a aprender.
B8	Capacidade de análise e sínteses.
B12	Capacidade para organizar e planificar.
B13	Toma de decisións.
C1	Expresarse correctamente, tanto de forma oral coma escrita, nas linguas oficiais da comunidade autónoma.
C3	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.
C4	Desenvolverse para o exercicio dunha cidadanía aberta, culta, crítica, comprometida, democrática e solidaria, capaz de analizar a realidade, diagnosticar problemas, formular e implantar solucións baseadas no coñecemento e orientadas ao ben común.
C6	Valorar criticamente o coñecemento, a tecnoloxía e a información dispoñible para resolver os problemas cos que deben enfrontarse.
C7	Asumir como profesional e cidadán a importancia da aprendizaxe ao longo da vida.
C8	Valorar a importancia que ten a investigación, a innovación e o desenvolvemento tecnolóxico no avance socioeconómico e cultural da sociedade.
C9	CB1.- Que os estudantes demostraran posuír e comprender coñecementos nunha área de estudo que parta da base da educación secundaria xeral, e sólese atopar a un nivel que, si ben se apoia en libros de texto avanzados, inclúe tamén algúns aspectos que implican coñecementos procedentes da vangarda dun campo de estudo.
C10	CB2.- Que os estudantes saiban aplicar os seus coñecementos a seu traballo ou vocación de unha forma profesional y posúan as competencias que solen demostrarse por medio da elaboración e defensa de argumentos e a resolución de problemas dentro da súa área de estudo.
C11	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 una reflexión sobre temas relevantes de índole social, científica ou ética.
C12	CB4.- Que os estudantes poidan transmitir información, ideas, problemas e solucións a un público tanto especializado como non especializado

## Learning outcomes



Learning outcomes	Study programme competences / results		
Understand the functions of the various organs and systems of the healthy body.	A1 A2 A11	B1 B8	C3 C9
Understand the mechanisms of integration and interaction between the different organ systems	A1 A2	B1 B8	C1
Identify the alterations of the different functions and the causes because they are produced	A1 A2 A11	B1 B8 B12 B13	C1 C3 C4 C6 C7 C8 C10 C11 C12

Contents	
Topic	Sub-topic
Cell Physiology	<ul style="list-style-type: none"> <li>- Volume and composition of cellular fluids</li> <li>- Cellular membrane</li> <li>- Transmembrane transport and action potential</li> <li>- Neuromuscular synaptic transmission</li> <li>- Smooth and skeletal muscle</li> </ul>
Cardiocirculatory system	<ul style="list-style-type: none"> <li>- Cardiovascular system circuit</li> <li>- Hemodynamics</li> <li>- Electrophysiology</li> <li>- Contraction of the heart muscle</li> <li>- Cardiac cycle</li> <li>- Blood pressure and venous return</li> <li>- Microcirculation</li> <li>- Circulatory failure</li> <li>- Valve pathology</li> <li>- Cardiac arrhythmias</li> <li>- Myocardial ischemia</li> <li>- Pathology of the pericardium</li> <li>- Blood pressure pathology</li> <li>- Peripheral vascular pathology</li> </ul>
Respiratory system	<ul style="list-style-type: none"> <li>- Structure of the respiratory system</li> <li>- Lung volumes and capacities</li> <li>- Breathing mechanics</li> <li>- Gas exchange and transport of oxygen and CO<sub>2</sub></li> <li>- Ventilation perfusion relationships</li> <li>- Breathing control</li> <li>- Respiratory insufficiency</li> <li>- Pathology of the lung parenchyma</li> <li>- Pathology of the pleura and mediastinum</li> <li>- Pulmonary circulation pathology</li> </ul>



Nefrourologic System	<ul style="list-style-type: none"> <li>- Body liquids</li> <li>- Renal blood flow</li> <li>- Glomerular filtration</li> <li>- Reabsorption and secretion</li> <li>- Ions and electrolytes balance</li> <li>- Urinary regulation</li> </ul>
Gastrointestinal System	<ul style="list-style-type: none"> <li>- Gastrointestinal system structure</li> <li>- Innervation and gastrointestinal peptides</li> <li>- Gastrointestinal movements</li> <li>- Secretion</li> <li>- Digestión and absorption</li> <li>- Liver Phisiology</li> </ul>
Hematopoyetic System	<ul style="list-style-type: none"> <li>- Erythrocytes. Blood groups.</li> <li>- Leukocytes and immune system.</li> <li>- Hemostasis and blood coagulation.</li> </ul>
Endocrine System	<ul style="list-style-type: none"> <li>- Hormonal secretion regulation</li> <li>- Hypothalamic-pituitary relations</li> <li>- Pituitary</li> <li>- Thyroid</li> <li>- Adrenal cortex and medulla</li> <li>- Endocrine Pancreas</li> <li>- Calcium-phosphorus metabolism</li> </ul>
Reproductive System	<ul style="list-style-type: none"> <li>- Sexual differentiation.</li> <li>- Puberty.</li> <li>- Male reproductive physiology.</li> <li>- Female reproductive physiology. Childbirth.</li> <li>- In vitro fertilization.</li> <li>- Pathology of Childbirth.</li> <li>- Sexually transmitted diseases.</li> </ul>
Nervous System	<ul style="list-style-type: none"> <li>- Organization of nervous system</li> <li>- Sensorial systems: sight, hearing, smell and taste</li> <li>- Somatosensory system</li> <li>- Superior funtions of CNS</li> <li>- Cerebrospinal fluid</li> </ul>

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours
Guest lecture / keynote speech	A1 A2 A11 C4 C11	64	0	64
Collaborative learning	A1 A2 A11 B8 B13 C1 C3 C4 C6 C7	40	80	120
Supervised projects	A1 A2 A11 B1 B8 B12 C1 C3 C6 C7	12	24	36
Introductory activities	B12 C3 C6	3	0	3
Seminar	A1 A2 A11 C3 C4 C6 C7 C8 C9 C10 C11 C12	5	15	20
Mixed objective/subjective test	A1 A2 A11	3	50	53
Personalized attention		4	0	4

(\*)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	Activity in which important topics are presented and current knowledge is synthesized that will later serve as a learning guide for the preparation of the mixed test.
Collaborative learning	Case studies, usually in groups, using two types of activity: <ul style="list-style-type: none"> <li>- Learning based on problem solving</li> <li>- Collaborative work</li> </ul>
Supervised projects	In this activity students improve their knowledge based on troubleshooting
Introductory activities	Activity of presentation of the subject and the sources of knowledge and updating as well as the use of ICT for the preparation of the subject.
Seminar	Activity focused on an important topic so that student participation serves to establish knowledge as well as prepare students for future presentations in the forums specific to the development of their professional activity.
Mixed objective/subjective test	Written test with short question and / or multiple choice test, and a practical case to evaluate the acquired knowledge.

## Personalized attention

Methodologies	Description
Supervised projects	The personal attention related to the supervised works aims to guide students in the realization of this kind of works. This could be done individually or in small groups, either in person or via email.

## Assessment

Methodologies	Competencies / Results	Description	Qualification
Collaborative learning	A1 A2 A11 B8 B13 C1 C3 C4 C6 C7	Case studies presented in class through discussion and setting learning objectives will be held in small groups.	20
Mixed objective/subjective test	A1 A2 A11	The test will consist of short questions and / or multiple choice questions, related to the theoretical content, readings, case studies and supervised work. The test score out will be between 0 and 10. The minimum passing score for the test is 5. In the second and subsequent calls the value of the test represent 100% of the course grade.	70
Supervised projects	A1 A2 A11 B1 B8 B12 C1 C3 C6 C7	The evaluation of the work will based on the following topics: <ul style="list-style-type: none"> <li>. Description and synthesis of the information.</li> <li>. Using specific lexicon.</li> </ul> It will count as a minimum of 0 and a maximum of 10. The minimum score to pass the test will be 5. The average rating is added to the exam as long as the test is passed.	10

## Assessment comments

<p>2ª oportunidade, adiamento de oportunidade e estudantes con matrícula parcial a proba mixta é o 100% da cualificación.</p> <p>A realización fraudulenta das probas ou actividades de avaliación, unha vez comprobada, implicará directamente a cualificación de suspenso na convocatoria en que se cometa: o/a estudante será cualificado con ?suspenso? (nota numérica 0) na convocatoria correspondente do curso académico, tanto se a comisión da falta se produce na primeira oportunidade como na segunda. Para isto, procederá a modificar a súa cualificación na acta de primeira oportunidade, se fose necesario.</p>
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## Sources of information



<b>Basic</b>	<ul style="list-style-type: none"> <li>- GUYTON H. (2007). Tratado de Fisiología Médica. . Elsevier</li> <li>- COSTANZO L (2011). Fisiología . Elsevier</li> <li>- MEZQUITA (2011). Fisiología Médica. Panamericana</li> <li>- MULRONEY S (2011). Fundamentos de Fisiología. Elsevier</li> <li>- JAVIER LASO (2011). Introducción a la Medicina Clínica. Elsevier Masson</li> <li>- HARRISON (2009). Principios de Medicina Interna. Mc Graw Hill</li> </ul>
<b>Complementary</b>	

## Recommendations

Subjects that it is recommended to have taken before

Subjects that are recommended to be taken simultaneously

Anatomy/661G01001  
Biology/661G01002

Subjects that continue the syllabus

Nutrition/661G01009  
Clinical Nursing (I and II)/661G01012  
Community Nursing I/661G01014  
Clinical Nursing III/661G01017  
Community Nursing II/661G01019  
Clinical Nursing I/661G01034  
Clinical Nursing II/661G01035

## Other comments

Esta materia ten en conta as recomendacións de SOSTENIBILIDADE MEDIO AMBIENTE, PERSOA E IGUALDADE DE XENERO:- A entrega dos traballos documentais que se realicen nesta materia, realizarase a través de Moodle, en formato dixital sen necesidade de imprimilos. NO CASO DE QUE A ENTREGA dos traballos, fose en papel:- Non se empregarán plásticos- Realizaranse impresións a dobre cara- Empregarase preferentemente papel reciclado- Evitarase a impresión de borradores.- Na realización dos traballos tutelados, o plaxio e a utilización de material non orixinal, incluído aquel obtido a través de Internet, sen indicación expresa da súa procedencia e, se é o caso, o permiso do seu autor/a, poderá ser considerada causa de cualificación de suspenso na actividade.- Teranse en conta os principios éticos relacionados cos valores da sustentabilidade nos comportamentos persoais e profesionais.- Facilitarase a plena integración do alumnado que por razón físicas, sensoriais, psíquicas ou socioculturais, experimenten dificultades a un acceso idóneo, igualitario e proveitoso á vida universitaria;

(\*)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.