



## Teaching Guide

Teaching Guide				
Identifying Data				2020/21
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				
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.			



<b>Contingency plan</b>	<p>1. Modifications in the contents.</p> <ul style="list-style-type: none"> <li>- No changes will be made</li> </ul> <p>2. Methodologies</p> <p>* Teaching methodologies that are maintained</p> <ul style="list-style-type: none"> <li>- Master session</li> <li>- Guided discussion (counts in the evaluation)</li> <li>- Tutored works (with personalized attention) (counts in the evaluation)</li> <li>- Personalized attention</li> </ul> <p>* Teaching methodologies that change</p> <ul style="list-style-type: none"> <li>- Study cases. Case studies carried out in groups, it is modified to the individual modality. - Mixed test. This written test of short questions and test type, with resolution of a case, to fundamentally evaluate the learning of the theoretical contents, changes to a test type examination only.</li> <li>- Oral presentation. Activity in which students orally present the content / results of the problem solving objectives. This methodology is removed from planning due to difficulties in its development.</li> </ul> <p>3. Mechanisms for personalized attention to students.</p> <ul style="list-style-type: none"> <li>- Email: every day. To make inquiries, request virtual meetings to answer questions and follow up on supervised work.</li> <li>- Moodle: every day. According to the student's need. They have "thematic forums associated with the modules" of the topic, to formulate the necessary queries. There are also "specific activity forums" to develop the "Directed Discussions", through which if you put into practice the development of theoretical contents of the subject.</li> <li>- Teams: 1 weekly session in a large group for the advancement of the theoretical contents and the tutored works, in the time interval assigned to the subject in the faculty calendar. From 1 to 2 weekly sessions (or more as requested by students) in small groups (up to 6 people), for monitoring and support in carrying out "supervised work". This dynamic allows to monitor the learning needs of students to develop the work of the subject.</li> </ul> <p>4. Modifications in the evaluation.</p> <ul style="list-style-type: none"> <li>- Exam: type multiple choice test in contactless mode. The pass is in 50% of the correct answers.</li> <li>- Resolution of clinical cases: the clinical case will be sent to students with a limited time of 1 hour and must be sent by Moodle or email within the required time.</li> </ul> <p>* Evaluation observations:</p> <p>They remain the same as in the teaching guide, except that:</p> <ul style="list-style-type: none"> <li>- References to the calculation of attendance, which will only be made with respect to the sessions that took place in person until the activity has been suspended.</li> </ul> <p>1. SITUATIONS:</p> <p>A) Full-time students: Attendance / participation in activities of a minimum class of 80%:</p> <p>a) Preparation and presentation of small group work (100%).</p> <p>B) Students with recognition of part-time dedication and academic exemption from attendance, as established by the "REGULATION REGULATING THE REGIME OF DEDICATION TO THE STUDY OF UNDERGRADUATE STUDENTS AT THE UDC (Arts. 2.3; 3.b and 4.5) (5/29/212): Attendance / participation in activities of minimum 80% class:</p> <p>a) Preparation and presentation of small group work (100%).</p> <p>2. REQUIREMENTS TO EXCEED THE TOPIC:</p> <ul style="list-style-type: none"> <li>- Regularly attend and participate in class activities.</li> <li>- Obtain a score of 50% of the weight of each of the parts that are evaluated (supervised work).</li> <li>- Deliver and present the supervised works on the indicated date.</li> <li>- The July opportunity will be subject to the same criteria as the June opportunity.</li> </ul> <p>5. Modifications to the bibliography or webography.</p> <p>No changes will be made. They will have work materials on the way scanned through Moodle.</p>
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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>
TEMA II. Sistema Cardiocirculatorio.	<ul style="list-style-type: none"><li>- Circuito do sistema cardiovascular</li><li>- Hemodinámica</li><li>- Electrofisioloxía</li><li>- Contracción do músculo cardíaco</li><li>- Ciclo cardíaco</li><li>- Presión arterial y retorno venoso</li><li>- Microcirculación</li><li>- Insuficiencia circulatoria</li><li>- Patoloxía das válvulas</li><li>- Arritmias cardíacas</li><li>- Isquemia miocárdica</li><li>- Patoloxía do pericardio</li><li>- Patoloxía da presión arterial</li><li>- Patoloxía vascular periférica</li></ul>
TEMA III. Sistema Respiratorio	<ul style="list-style-type: none"><li>- Estructura do sistema respiratorio</li><li>- Volúmenes e capacidades pulmonares</li><li>- Mecánica da respiración</li><li>- Intercambio de gases e transporte de oxíxeno e CO2</li><li>- Relacións ventilación perfusión</li><li>- Control da respiración</li><li>- Insuficiencia respiratoria</li><li>- Patoloxía do parénquima pulmonar</li><li>- Patoloxía da pleura e do mediastino</li><li>- Patoloxía da circulación pulmonar</li></ul>
Nefrourologyc 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 Physiology</li></ul>
TEMA VI. Sistema Reprodutor	<ul style="list-style-type: none"><li>- Diferenciación sexual.</li><li>- Pubertad.</li><li>- Fisioloxía reproductiva masculina.</li><li>- Fisioloxía reproductiva feminina. O parto.</li><li>- Fecundación in vitro.</li><li>- Patoloxía do Parto.</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>
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 functions 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
Problem solving	A1 A2 A11 B1 B8 B12 B13 C1 C3 C4 C6 C7 C8 C9 C10 C11 C12	60	0	60
Case study	A1 A2 A11 B8 B13 C1 C3 C4 C6 C7	30	30	60
Supervised projects	A1 A2 A11 B1 B8 B12 C1 C3 C6 C7	0	60	60
Oral presentation	A1 A2 A11 B8 B12 C1 C3	30	30	60
Laboratory practice	A1 A2 A11	2	2	4
Mixed objective/subjective test	A1 A2 A11	2	50	52
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
Problem solving	In this activity the teacher presents orally a problem and some learning objectives within the framework of the fundamental objectives of the subject.
Case study	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
Oral presentation	Activity in which students present oral contents / results of the objectives of problem solving and its opportunity is discussed.
Laboratory practice	Activity in an animal model in order to see "in vivo" the learned phenomena in the theoretical presentations
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
Oral presentation	A1 A2 A11 B8 B12 C1 C3	The test consists of the presentation of the results of the supervised projects or the study cases. The score out will be a minimum of 0 and a maximum of 10. The minimum passing score for the test is 5. The average rating is added to the end of the examination provided that the test is passed.	10
Case study	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.	60
Supervised projects	A1 A2 A11 B1 B8 B12 C1 C3 C6 C7	The evaluation of the work will based on the following topics: . Description and synthesis of the information. . Using specific lexicon. 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

Nos estudantes con matrícula parcial o valor da proba mixta representará o 100% da nota.

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



(\*)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.