



Teaching Guide

Teaching Guide				
Identifying Data				2019/20
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@udc.es	
Lecturers	Gómez Tellado, Manuel	E-mail	manuel.tellado@udc.es	
Web				
General description	O propósito desta materia é abordar o coñecemento e comprensión da función dos sistemas do organismo humano de forma integrada, é dicir os mecanismos que o organismo utiliza para manter en equilibrio todas as súas funcións e as interrelacións entre elas. Comprender as alteracións que se producen cando fallan os mecanismos de compensación fisiolóxicos e as súas manifestacións.			

Study programme competences

Code	Study programme competences
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		
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	- Volume and composition of cellular fluids - Cellular membrane - Transmembrane transport and action potential - Neuromuscular synaptic transmission - Smooth and skeletal muscle
TEMA II. Sistema Cardiocirculatorio.	- Circuito do sistema cardiovascular - Hemodinámica - Electrofisioloxía - Contracción do músculo cardíaco - Ciclo cardíaco - Presión arterial y retorno venoso - Microcirculación - Insuficiencia circulatoria - Patoloxía das válvulas - Arritmias cardíacas - Isquemia miocárdica - Patoloxía do pericardio - Patoloxía da presión arterial - Patoloxía vascular periférica
TEMA III. Sistema Respiratorio	- Estructura do sistema respiratorio - Volúmenes e capacidades pulmonares - Mecánica da respiración - Intercambio de gases e transporte de oxíxeno e CO₂ - Relacións ventilación perfusión - Control da respiración - Insuficiencia respiratoria - Patoloxía do parénquima pulmonar - Patoloxía da pleura e do mediastino - Patoloxía da circulación pulmonar



Nefrourologyc System	- Body liquids - Renal blood flow - Glomerular filtration - Reabsorption and secretion - Ions and electrolytes balance - Urinary regulation
Gastrointestinal System	- Gastrointestinal system structure - Innervation and gastrointestinal peptides - Gastrointestinal movements - Secretion - Digestión and absorption - Liver Phisiology
TEMA VI. Sistema Reprodutor	- Diferenciación sexual. - Pubertad. - Fisioloxía reproductiva masculina. - Fisioloxía reproductiva femenina. O parto. - Fecundación in vitro. - Patoloxía do Parto.
Hematopoyetic System	- Erythrocytes. Blood groups. - Leukocytes and immune system. - Hemostasis and blood coagulation.
Endocrine System	- Hormonal secretion regulation - Hypothalamic-pituitary relations - Pituitary - Thyroid - Adrenal cortex and medulla - Endocrine Pancreas - Calcium-phosphorus metabolism
Nervous System	- Organization of nervous system - Sensorial systems: sight, hearing, smell and taste - Somatosensory system - Superior funtions of CNS - Cerebrospinal fluid

Planning				
Methodologies / tests	Competencies	Ordinary class hours	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: - Learning based on problem solving - Collaborative work
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	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



Basic	- GUYTON H. (2007). Tratado de Fisiología Médica. . Elsevier - COSTANZO L (2011). Fisiología . Elsevier - MEZQUITA (2011). Fisiología Médica. Panamericana - MULRONEY S (2011). Fundamentos de Fisiología. Elsevier - JAVIER LASO (2011). Introducción a la Medicina Clínica. Elsevier Masson - HARRISON (2009). Principios de Medicina Interna. Mc Graw Hill
Complementary	

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.