



## Teaching Guide

Teaching Guide				
Identifying Data				2020/21
Subject (*)	Pharmacology	Code	750G02109	
Study programme	Grao en Podoloxía			
Descriptors				
Cycle	Period	Year	Type	Credits
Graduate	1st four-month period	Second	Basic training	6
Language	Spanish			
Teaching method	Hybrid			
Prerequisites				
Department	Ciencias da Saúde			
Coordinador	Nuñez Fernández, Lucia	E-mail	lucia.nunez@udc.es	
Lecturers	Nuñez Fernández, Lucia	E-mail	lucia.nunez@udc.es	
Web	moodle.udc.es			
General description	<p>Pharmacology is the biological science that studies the actions and properties of drugs in organisms. We can define drug as any chemical used for the following purpose: treat, cure, prevent or diagnose a disease, or to prevent the occurrence of an unwanted physiological process.</p> <p>The main contents of the subject are:</p> <ul style="list-style-type: none"><li>Introduction to pharmacology and current legislation.</li><li>Rational use of the drug. Pharmacoeconomics.</li><li>General principles of action of drugs: pharmacokinetics (Routes of drug administration).</li><li>General principles of action of drugs: pharmacodynamics (Action and effects).</li><li>Physiological and pathological factors that condition the response to drugs.</li><li>Drug design and drug development. Adverse drug reactions. Toxicity studies.</li><li>Drug interaction.</li><li>Introduction to Clinical Pharmacology (Natural products, description of pharmacological groups and commonly used drugs, indications and contraindications).</li></ul>			



<b>Contingency plan</b>	<p>1. Modifications in the contents</p> <p>- No changes will be made</p> <p>2. Methodologies</p> <p>* Teaching methodologies that are maintained</p> <p>Master classes will remain virtual.</p> <p>Those seminars that were already planned to be virtual will remain virtual.</p> <p>* Teaching methodologies that change</p> <p>The seminars that were expected to be face-to-face will be virtualized.</p> <p>3. Mechanisms of personalized attention to students</p> <p>- Email: Daily. Used to make inquiries, request virtual tutorials by teams to resolve doubts and to follow up on supervised work.</p> <p>- Moodle: Daily. Doubt forums will be created on each topic.</p> <p>- Teams: 1 weekly session in large group for the advancement of the theoretical contents in the master classes. 1 weekly session in medium groups for conducting seminars on the topic seen in the master class.</p> <p>4. Modifications in the evaluation</p> <p>The same assessment percentages are maintained. In case the multiple choice test cannot be attended, it will be done through moodle.</p> <p>* Evaluation observations:</p> <p>- 75% multiple choice test: The student must take a test of 50 questions (45 of the topics seen in the master classes and 5 of the work done in the workshops) type test with multiple answers, a correct one of 5 possible. Do not score negative. The pass (5) will be in 70% of the correct answers, that is, the number of correct answers to pass is 35. It is necessary to obtain a pass in the exam to be able to pass the subject. Answers will be assessed solely on the exam answer template.</p> <p>- 25% workshops: It will evaluate in function of the assistance and the participation of the student in the activities to realize in the seminars. In the multiple choice test, 5 questions of the subject that will be seen in the workshops will be included.</p> <p>5. Modifications to the bibliography or webography</p> <p>- No changes will be made</p>
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Study programme competences / results	
Code	Study programme competences / results
A75	CE11 - Coñecer os grupos farmacolóxicos e os procesos cinéticos dos medicamentos no organismo, identificando os fármacos de uso habitual as súas indicacións, contraindicacións, reaccións adversas, interaccións e vías de administración
A76	CE12 -- Coñecer os principios de deseño de fármacos e desenvolvemento de medicamentos, Receitas, Estudos de toxicidade e produtos naturais de utilización terapéutica
B24	CB2 - Que os estudantes saiban aplicar os seus coñecementos ao seu traballo ou vocación dunha forma profesional e posúan as competencias que adoitan demostrarse por medio da elaboración e defensa de argumentos e a resolución de problemas dentro da súa área de estudo
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
B30	CG03 - Obter a capacidade, habilidade e destreza necesarias para diagnosticar, prescribir, indicar, realizar e/ou elaborar e avaliar calquera tipo de tratamento podolóxico, ortopodolóxico, quiropodolóxico, cirurxía podolóxica, físcico, farmacolóxico, preventivo e/ ou educativo, baseado na Historia clínica
B36	CG09 -Valorar de forma crítica a terminoloxía, ensaios clínicos e metodoloxía utilizados na investigación relacionada coa podoloxía



C16	CT08 - V- Valorar a importancia que ten a investigación, a innovación e o desenvolvemento tecnolóxico no avance socioeconómico e cultural da sociedade
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Learning outcomes			
Learning outcomes	Study programme competences / results		
Know the design of drugs and the development of drugs. Know the toxicity of drugs. Know the use of the recipe.	A76	B25 B36	C16
Know and apply the principles of pharmacokinetics in the use and indications of drugs. Know the routes of administration of medications.	A75	B30	C16
Know and apply the principles of pharmacodynamics in the use and indications of drugs.	A75	B25 B30 B36	C16
Know the action, effects, adverse reactions and pharmacological interactions.	A75		
Know and describe the different pharmacological groups. Commonly used drugs, indications and contraindications. Know the natural products for therapeutic use.	A75	B24 B25 B30 B36	C16

Contents	
Topic	Sub-topic
Introdución á Farmacoloxía e lexislación vixente.	1. Introdución á Farmacoloxía. 2. Lexislación vixente. 3. Desenvolvemento e comercialización dos medicamentos. 4. Prescrición e uso de medicamentos. Receita. 5. Uso racional de medicamentos. 6. Información e selección de medicamentos. 7. A avaliación económica da utilización de medicamentos. Tipos de estudos farmacoecónómicos.
Principios xerais de acción de fármacos: farmacocinética (Vías de administración de medicamentos).	8. Absorción de fármacos. 9. Distribución de fármacos. 10. Biotransformación de fármacos: Metabolismo e Eliminación.
Principios xerais de acción de fármacos: farmacodinámica (Acción e efectos).	11. Interaccións fármaco-receptor. 12. Mecanismos moleculares de acción.
Factores fisiolóxicos e patolóxicos que condicionan a resposta aos fármacos.	13. Factores fisiolóxicos que condicionan a resposta a fármacos. 14. Factores patolóxicos que condicionan a resposta a fármacos.
Deseño de fármacos e desenvolvemento de medicamentos. Reaccións adversas aos medicamentos. Estudos de toxicidade.	15. Reaccións adversas aos medicamentos. 16. Ensaio clínico controlado. 17. Farmacovixilancia.
Interaccións farmacolóxicas.	18. Interacción de fármacos. 19. Anamnesis farmacolóxica.
Introdución á Farmacoloxía clínica (Produtos naturais, descrición grupos farmacolóxicos e fármacos de uso habitual, indicacións e contraindicacións).	20. Produtos naturais de utilización terapéutica. 21. Descrición dos distintos grupos farmacolóxicos. 22. Fármacos de uso habitual, indicacións e contraindicacións.

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours



Guest lecture / keynote speech	A75 A76 B30 B36 C16	20	50	70
Workshop	A75 A76 B24 B25 B30 B36 C16	20	42	62
Multiple-choice questions	A75 A76 B24 B30	2	12	14
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	Exposición oral e con medios audiovisuais dos temas que compoñen o programa da materia.
Workshop	Sesións sobre os temas expostos na sesión maxistral co fin de aclarar puntos craves e/ou dúbidas dos alumnos. Combinaranse diversas metodoloxías/probas (exposicións, simulacións, debates, solución de problemas, prácticas guiadas, casos clínicos, etc) a través do que o alumnado desenvolve tarefas eminentemente prácticas sobre un tema específico, co apoio e supervisión do profesorado
Multiple-choice questions	50 preguntas con 5 respostas das cales só unha é correcta. Non se aplica factor de corrección polas respostas non acertadas.

## Personalized attention

Methodologies	Description
Guest lecture / keynote speech	During the master sessions, any doubts that may arise could be asked. Later and via e-mail, questions can also be expressed about the topics presented in class. There will be a question forum/chat on moodle to raise questions.
Workshop	During the workshops, personalized attention will be provided to resolve any doubts or problems that may arise for the student.

## Assessment

Methodologies	Competencies / Results	Description	Qualification
Multiple-choice questions	A75 A76 B24 B30	The student must take a test of 50 test-type questions (45 of the topics seen in the lectures and 5 of those worked in the workshops) with multiple answers, a correct one of 5 possible. Do not score negative. The pass (5) will be in 70% of the correct answers, ie the number of correct answers to pass is 35. It is necessary to obtain a pass in the exam in order to pass the subject.	75
Workshop	A75 A76 B24 B25 B30 B36 C16	It will be evaluated according to the participation of the student and the realization of the activities to realize in the seminars. The multiple choice test will include 5 questions from the material seen in the workshops.	25

## Assessment comments



The rating system will be expressed by numerical rating in accordance with the provisions of art. 5 of Royal Decree 1125/2003 of 5 September (BOE 18 September), which establishes the European credit system and the system of qualifications in university degrees of an official nature and valid throughout the national territory. Rating system: 0-4.9 = Failed, 5-6.9 = Passed, 7-8.9 = Notable, 9-10 = Outstanding, 9-10 Honors (Graceful). Graceful Honor Enrollment will be awarded to the student with the highest overall score as long as it is greater than 9. In the event that the number of enrollments that can be awarded is less than the number of students with the highest overall score, honors enrollment will be awarded to those students with the highest grade on the exam. If the number of honorary registrations that can be awarded continues to be lower, the grade of the workshops in which oral presentations were made will be taken into account. Students with part-time registration (they must send an e-mail to the teacher indicating their situation at the beginning of the course): the evaluation of the workshops will be carried out by the delivery of the exercises presented in each workshop on the moodle platform. The evaluation of the multiple choice test will be performed following the directions in this guide. Students with second registration and later (they must send an e-mail to the teacher indicating their situation at the beginning of the course): the evaluation of the workshops will be maintained from the previous registration. It will be possible to raise the note returning to realize the exercises exposed in the workshops in that matrícula. The evaluation of the multiple choice test will be performed following the directions in this guide. It will be considered not presented: that student who delivers less than 50% of the exercises exposed in the workshop and does not attend the final exam.

### Sources of information

<b>Basic</b>	1. Rang HP, Dale MM, Ritter JM, Flower RJ. Farmacología. 7ª ed. Madrid: Elsevier, 2012. 2. Flórez J. Farmacología Humana. 5ª ed. Barcelona: Masson, 2008. 3. Lorenzo-Velázquez B, Lorenzo Fernández P. Farmacología básica y clínica. 18ª ed. Madrid: Médica Panamericana, 2013. 4. Goodman y Gillman. Las bases farmacológicas de la terapéutica. 11 edición. Editorial Panamericana, 2006. 5. Martindale JFK. The extra Pharmacopoeia. The Pharmaceutical Press. 31 edición. 1996.
<b>Complementary</b>	1. Gómez Ortiz, Santiago y Gómez Facundo, Santiago. Guía farmacológica de utilización en podología. Consejo General de Colegios Oficiales de Podólogos. Barcelona: Nexus Médica Editores S.L. 2016. 2. J. Ignacio de Ahumada Vázquez, M.ª Luisa Santana Falcón, José S. Serrano Molina. Ignacio de. Farmacología práctica para las diplomaturas en ciencias de la salud: (enfermería, fisioterapia, podología): con autoevaluación. Madrid: Díaz de Santos, 2002.

### Recommendations

#### Subjects that it is recommended to have taken before

General Human Anatomy /750G02001  
 General Physiology/750G02003  
 Physiology of Systems/750G02004  
 General Pathology/750G02008  
 Microbiology and Parasitology/750G02107

#### Subjects that are recommended to be taken simultaneously

#### Subjects that continue the syllabus

Pharmacological Therapy/750G02122

#### Other comments

In the delivery of works it is recommended to the students that present documents in paper, preferably recycled, printed in both sides and that do not use plastics for the delivery of several sheets, better stapled documents. Students should be clear that the application of UDC regulations on plagiarism situations will be reviewed by teachers.

(\*)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.