



## Information about the subject

**Degree:** Bachelor of Science Degree in Podiatry

**Faculty:** Faculty of Medicine and Health Sciences

**Code:** 470307 **Name:** Pharmacological Therapeutics

**Credits:** 6,00 **ECTS Year:** 3 **Semester:** 1

**Module:** PODIATRIC PATHOLOGY, ORTHOPEDIC, PHYSICAL AND PHARMACOLOGICAL  
TREATMENTS

**Subject Matter:** Therapeutics **Type:** Compulsory

**Field of knowledge:** Health Sciences

**Department:** -

**Type of learning:** Classroom-based learning

**Languages in which it is taught:** Spanish

**Lecturer/-s:**



## Module organization

### PODIATRIC PATHOLOGY, ORTHOPEDIC, PHYSICAL AND PHARMACOLOGICAL TREATMENTS

Subject Matter	ECTS	Subject	ECTS	Year/semester
Orthopodology	12,00	Orthopodiatry I	6,00	2/1
		Orthopodiatry II	6,00	2/2
Pathology	18,00	Dermatology	6,00	2/2
		General Pathology	6,00	2/1
		Podiatric Pathology	6,00	2/1
Therapeutics	12,00	Pharmacological Therapeutics	6,00	3/1
		Physical Podiatry	6,00	3/1

## Recommended knowledge

Pre-requisites: None established



## Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

- R1 The student demonstrates that he or she has the necessary knowledge of prevention and health promotion, clinical protocolization and specific therapeutic approach according to the clinical characteristics of the patient, by means of a written test with multi-response and short answer questions.
- R2 The student demonstrates that he or she has the necessary knowledge about the main groups of drugs used in the systemic treatment of podiatric conditions by taking a multi-response written test and solving short answer questions.
- R3 The student demonstrates that he or she has the necessary knowledge of the main groups of drugs used in the topical treatment of podiatric conditions by taking a multi-response written test and answering short questions.
- R4 The student demonstrates that he or she knows the concept of magistral formula and officinal preparation, the advantages and disadvantages that these possess with respect to a commercialized specialty, the necessary requirements for the correct prescription of a magistral formula or officinal preparation, as well as the most common magistral formulas in the treatment of dermatological pathologies in the foot, by means of the resolution of written or raised questions during the practical sessions.
- R5 The student demonstrates that he or she has the knowledge and skills necessary for the correct interpretation of medical prescriptions and the calculation of drug doses that ensures a rational and safe use of the medicine, by solving written questions or questions raised during the practical sessions.



## Competencies

Depending on the learning outcomes, the competencies to which the subject contributes are (please score from 1 to 4, being 4 the highest score):

BASIC		Weighting			
		1	2	3	4
CB3	Students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include reflection on relevant social, scientific or ethical issues.			X	

GENERAL		Weighting			
		1	2	3	4
CG1	Students know and apply the theoretical and methodological foundations of Chiropody and Podiatry.		X		
CG2	Students know the structure and function of the human body, especially of the lower limb, semiology, mechanisms, causes and general manifestations of the disease and diagnostic methods of medical and surgical pathological processes, interrelating general pathology with foot pathology.		X		
CG3	Students develop the capacity, ability and skill necessary to diagnose, prescribe, indicate, perform and/or elaborate and evaluate any type of podiatric, orthopedic, chiropractic, podiatric surgery, physical, pharmacological, preventive and/or educational treatment, based on the clinical history.			X	
CG5	Students collaborate with health professionals specifically trained in the field, in the adaptation and use of prostheses and necessary technical aids, according to the physical, psychological and social conditions of the patients.	X			
CG9	Students critically assess the terminology, clinical trials and methodology used in podology-related research.	X			

SPECIFIC		Weighting			
		1	2	3	4



## Year 2023/2024

470307 - Pharmacological Therapeutics

TRANSVERSAL		Weighting			
		1	2	3	4
CT1	Analytical capabilities			X	
CT2	Organizational and planning skills			X	
CT3	Oral and written communication in native language			X	
CT6	Information management capacity			X	
CT7	Problem solving			X	
CT8	Decision making			X	
CT9	Teamwork	X			
CT10	Interdisciplinary teamwork	X			
CT14	Critical Reasoning			X	
CT15	Ethical commitment			X	
CT16	Autonomous learning			X	
CT17	Adaptation to new situations		X		



CT18 Creativity	x		
CT21 Initiative and entrepreneurship	x		
CT22 Motivation for quality		x	



## Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
	10,00%	Open questions
	70,00%	Tests
	5,00%	Practice (exercises, case studies, problems)
	5,00%	Class participation
	10,00%	Practice exam- technical proficiency testing

### Observations

MINIMUM REQUIREMENTS: The course will be divided into the following blocks for evaluation:

1. **Theoretical exam**; based on the theoretical contents taught and consisting of multiple-choice questions (70%) and open questions (10%). The grade of this exam will be weighted with **80%** of the total grade of the subject. It will be necessary to obtain a grade higher than 4 in order to count the rest of the marks.

2. **Practical exam**; based on knowledge acquired in the practical seminars given during the course. The grade of this exam will be weighted with **10%** of the total grade of course.

3. **Class participation and activities**; this will represent **10%** of the total grade for the course. It corresponds to the student's class attendance record, if considered, and to the participation in the activities developed in the classroom or through the teaching platform.

The final mark for the subject will correspond to the sum of the marks obtained in the theory exam, practical exam and the item participation in class and activities. The subject will be considered passed when the grade of 5 is exceeded.

The mark passed corresponding to items 2 and 3 will be kept for the second sitting in the event of failing the theory exam at the first sitting. The grading criteria applied to the students of second and successive enrollments will be **80% of the grade corresponding to the theory exam and 20% to the practical exam**. The subject will be considered passed when the grade of 5 is exceeded.

**CRITERIA FOR THE GRANTING OF HONOR REGISTRATION:** Explicitly specify specific criteria for the subject and faculty to which the degree is assigned and in accordance with the general regulations that indicate that only one registration of honor can be given for every 20 students, not for a fraction of 20, with the exception of the case of groups of less than 20 students in



total, in which a registration can be given

## MENTION OF DISTINCTION:

According to Article 22 of the Regulations governing the Evaluation and Qualification of UCV Courses, the mention of "Distinction of Honor" may be awarded by the professor responsible for the course to students who have obtained, at least, the qualification of 9 over 10 ("Sobresaliente"). The number of "Distinction of Honor" mentions that may be awarded may not exceed five percent of the number of students included in the same official record, unless this number is lower than 20, in which case only one "Distinction of Honor" may be awarded.

## Learning activities

The following methodologies will be used so that the students can achieve the learning outcomes of the subject:

- M1 Theoretical classes (TC). Training activity preferably oriented to the acquisition of knowledge skills. It is characterised by the fact that students are spoken to. Also called master class or expository class, it refers to the oral exposition made by the teacher, (with the support of a blackboard, computer and cannon for the exposition of texts, graphics, etc.).
- M2 Seminars (S). Training activity preferably oriented to obtain knowledge application and research competences. Knowledge is built through interaction and activity. Consisting of supervised monographic sessions with shared participation (Teachers, students, experts). The size of the group is variable, from a large group to small groups, no less than 6 students for interaction. The evaluation will be made by means of follow-up records by the teacher. Participation and development of problem-solving skills should be taken into account.
- M3 Problems practice (CPP). Training activity oriented to group work for problem solving under the supervision of a teacher. The size of the group is variable, in a range of 10-20 students, to avoid confusion with a master class.
- M4 Classroom practice (CPA). Training activity of work in groups that is developed in the classroom. It includes work with documents (e.g.: work with articles or documents, clinical case studies, diagnostic analyses, etc). The size of the group is variable, in a range of 10-20 students.
- M5 Computer Practice (CPI). Training activity of work in groups that is developed in the Computer Classroom where the learning is developed using the computer as a support. It includes the work with computer models, specific software, web queries, etc. The size of the group is variable, in a range of 10-20 students.





- M6 Laboratory Practice (CPL). Training activity of work in groups that is developed in the Laboratory. It includes the sessions where students actively and autonomously develop, supervised by the teacher, laboratory experiments. The size of the group is variable, in a range of 10-20 students.
- M7 Tutorials (T). Set of activities carried out by the teacher with personalised attention to the student or in small groups with the aim of reviewing and discussing the materials and topics presented in the classes, seminars, readings, completion of assignments, etc. The aim is to ensure that education is truly a comprehensive training of the student and is not reduced to a transfer of information. It is, therefore, a personalized relationship of help in which the teacher-tutor attends, facilitates and guides one or more students in the formative process.
- M8 Evaluation (Ev). It is the set of processes that try to evaluate the learning results obtained by the students and expressed in terms of acquired knowledge, capacities, developed skills or abilities and manifested attitudes. It covers a wide range of activities that can be developed for students to demonstrate their training (e.g. written, oral and practical tests, projects or assignments,). It also includes Official Calls.
- M10 Estudio del alumno: Preparación individual de lecturas, ensayos, resolución de problemas, seminarios



## IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
Theoretical lessons M1	R1, R2, R3, R4, R5	40,00	1,60
Seminar M2	R1, R2, R3, R4, R5	6,00	0,24
Practice lessons M3, M4	R1, R2	8,00	0,32
Office Hours M7	R1, R2	4,00	0,16
Evaluation M8	R1, R2	2,00	0,08
<b>TOTAL</b>		<b>60,00</b>	<b>2,40</b>

## LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
Autonomous work M10		60,00	2,40
Group work M10		30,00	1,20
<b>TOTAL</b>		<b>90,00</b>	<b>3,60</b>



## Description of the contents

Description of the necessary contents to acquire the learning outcomes.

### Theoretical contents:

Content block	Contents
UNIT I.- SISTEMIC PODOLOGICAL PHARMACOLOGY	<p>Presentation of the subject.</p> <ol style="list-style-type: none"><li>1. Analgesics and anti-inflammatories I: NSAIDs.</li><li>2. Analgesics and anti-inflammatories II: Opioids</li><li>3. Analgesics and anti-inflammatories III: Modifying drugs for rheumatic disease.</li><li>4. Hypouricemic and anti-gout drugs.</li><li>5. General considerations of anti-infective therapy. Antibiotic drugs.</li><li>6. Antifungal drugs.</li><li>7. Antiviral drugs.</li><li>8. Antihistamine drugs. Pruritus treatment.</li><li>9. Corticosteroids Glucocorticoids for infiltration.</li></ol>
UNIT II.- LOCAL PODOLOGICAL PHARMACOLOGY	<ol style="list-style-type: none"><li>10. Topical application corticosteroids.</li><li>11. Topical antibiotics and proteolytic enzymes.</li><li>12. Skin hydration. Moisturizing and antihydrotic agents.</li><li>13. Antipsoriasis drugs.</li><li>14. Treatment of skin ulcers.</li><li>15. Healing agents and keratolytic agents.</li><li>16. Antiseptics, disinfectants and other agents of local action</li></ol>
UNIT III.- MAGISTRAL FORMULATION IN PODIATRY	<ol style="list-style-type: none"><li>17. The skin barrier. Cutaneous integrity Percutaneous absorption</li><li>18. Fundamental aspects of the systems used in master formulation in dermatology. Choice of vehicles and excipients in master formulation. Solutions, suspensions, emulsions and other topical pharmaceutical forms. Antiepileptic and anticonvulsant drugs.</li><li>19. Main master formulas and officinal preparations used in podiatry.</li></ol>



## UNIT IV.- PRACTICAL CONTENTS

- 20. Medical prescription.
- 21. Medication administration and dose calculation.

### Temporary organization of learning:

Block of content	Number of sessions	Hours
UNIT I.- SISTEMIC PODOLOGICAL PHARMACOLOGY	12,00	24,00
UNIT II.- LOCAL PODOLOGICAL PHARMACOLOGY	11,00	22,00
UNIT III.- MAGISTRAL FORMULATION IN PODIATRY	4,00	8,00
UNIT IV.- PRACTICAL CONTENTS	3,00	6,00



## References

### MAIN BIBLIOGRAPHY

1. Florez, J. **FARMACOLOGÍA HUMANA**, 6ªed.Masson. Barcelona. 2013.
2. Katzung, B.G., Vanderah, TW. **FARMACOLOGÍA BÁSICA Y CLÍNICA**. Ed. McGraw-Hill; 2021. ISBN: 9786071515810
3. Lorenzo, P., Moreno, A., Leza, J.C., Lizasoain, I., Moro, M.A., Portoles, A. **VELAZQUEZ. FARMACOLOGÍA BÁSICA Y CLÍNICA**. 19ª Ed.Médica Panamericana. EAN: 9786078546077. Madrid 2018.
- 4.
3. Rang, H.P. & Dale, M.M. **FARMACOLOGÍA**. 8ªed. Madrid. Churchill Livingstone.2016.
4. Katzung, B.G., Trevor, A.J. **FARMACOLOGÍA BÁSICA Y CLÍNICA**. 13ª Ed. McGraw-Hill, 2016.
5. Lüllann, H., Mohr, K., Hein, L. **FARMACOLOGÍA**. Texto y Atlas. 6ªEd. Medica Panamericana, 2010.
6. Raffa, R., Rawls, SM., Beyzarov, EP. **NETTER. FARMACOLOGÍA ILUSTRADA**. 1ª Ed. Elsevier; 2008.
7. Llópiz Clavijo, M.J. **FORMULARIO BÁSICO de MEDICAMENTOS MAGISTRALES**. 3ª Ed. El Cid; 2009.
8. Umbert P., Llambí, F. **LA FORMULACIÓN MAGISTRAL EN LA DERMATOLOGÍA DEL 2010**. Barcelona 2008.
9. Olsen, J.L., Giangrasso, A.P., Shrimpton, D. **MEDICAL DOSAGE CALCULATIONS**. 11TH Ed. Pearson Education; 2014

### SUPPLEMENTARY BIBLIOGRAPHY

10. Domenech, J., Martínez, J., Peraire, C. **TRATADO GENERAL DE BIOFARMACIA Y FARMACOCINÉTICA. VOLUMEN I**. Ed. Síntesis, S.A.; 2013.
11. Domenech, J., Martínez, J., Peraire, C. **TRATADO GENERAL DE BIOFARMACIA Y FARMACOCINÉTICA. VOLUMEN II**. Ed. Síntesis, S.A.; 2013.
12. Brunton, L., Lazo, J., Lazo, JS, Parker, KL. **GOODMAN & GILMAN: LAS BASES FARMACOLÓGICAS DE LA TERAPÉUTICA**.12ª Ed. McGraw-Hill Interamericana; 2012.
13. Baxter K., **STOCKLEY INTERACCIONES FARMACOLÓGICAS** 3ª Ed. S.L. Pharma Editores; 2009.
14. Brayfield, A. **MARTINDALE. THE COMPLETE DRUG REFERENCE**. 38TH Ed. Pharmaceutical Press; 2014.



## Addendum to the Course Guide of the Subject

Due to the exceptional situation caused by the health crisis of the COVID-19 and taking into account the security measures related to the development of the educational activity in the Higher Education Institution teaching area, the following changes have been made in the guide of the subject to ensure that Students achieve their learning outcomes of the Subject.

**Situation 1: Teaching without limited capacity** (when the number of enrolled students is lower than the allowed capacity in classroom, according to the security measures taken).

In this case, no changes are made in the guide of the subject.

**Situation 2: Teaching with limited capacity** (when the number of enrolled students is higher than the allowed capacity in classroom, according to the security measures taken).

In this case, the following changes are made:

### 1. Educational Activities of Onsite Work:

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject will be made through a simultaneous teaching method combining onsite teaching in the classroom and synchronous online teaching. Students will be able to attend classes onsite or to attend them online through the telematic tools provided by the university (videoconferences). In any case, students who attend classes onsite and who attend them by videoconference will rotate periodically.

In the particular case of this subject, these videoconferences will be made through:

☒ Microsoft Teams

☒ Kaltura



## **Situation 3: Confinement due to a new State of Alarm.**

In this case, the following changes are made:

### **1. Educational Activities of Onsite Work:**

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject, as well as the group and personalized tutoring, will be done with the telematic tools provided by the University, through:

☒ Microsoft Teams

☒ Kaltura

Explanation about the practical sessions:



## 2. System for Assessing the Acquisition of the competences and Assessment System

### ONSITE WORK

#### Regarding the Assessment Tools:

☒ The Assessment Tools will not be modified. If onsite assessment is not possible, it will be done online through the UCVnet Campus.

☐ The following changes will be made to adapt the subject's assessment to the online teaching.

Course guide		Adaptation	
Assessment tool	Allocated percentage	Description of the suggested changes	Platform to be used

The other Assessment Tools will not be modified with regards to what is indicated in the Course Guide.

#### Comments to the Assessment System: