

Teaching guide

IDENTIFICATION DETAILS

Degree:	Pharmacy		
Scope	Pharmacy		
Faculty/School:	Experimental Sciences		
Course:	PHARMACOLOGY II		
Type:	Compulsory	ECTS credits:	6
Year:	3	Code:	2532
Teaching period:	Sixth semester		
Subject:	Pharmacology		
Module:	Medicine and Pharmacology		
Teaching type:	Classroom-based		
Language:	Spanish		
Total number of student study hours:	150		

SUBJECT DESCRIPTION

Pharmacology is the science that studies the actions and properties of drugs in organisms, understanding as a drug any chemical substance used in the treatment, prevention or diagnosis of a disease, or to prevent the onset of an unwanted physiological process. This course will address the characteristics of drugs, from their pharmacokinetic properties that condition their form of administration and dosage regimen to their interactions with receptors or target sites, which are key to obtaining the pharmacological response on which their therapeutic indications will be based.

GOAL

Pharmacology is included in the Medicine and Pharmacology module. This module is fundamental in Pharmacy, since it addresses knowledge of pathologies and preventive measures and treatments to promote recovery and maintenance of health, essential in a healthcare professional. The graduate in Pharmacy requires knowledge and understanding of the mechanisms of action of drugs in the body, the interactions of different drugs, the therapeutic and adverse effects of drugs and correlating it with therapeutic indications and possible contraindications.

The specific aims of the subject are:

Know and understand the mechanisms of action of drugs and the effects derived from them, relate them to their therapeutic indications and the associated adverse effects. All of this will allow future professionals to be able to advise patients and healthcare professionals on the rational use of medications.

PRIOR KNOWLEDGE

For optimal use of the subject, students are recommended to have adequate knowledge of subjects such as: Physiology, Pathophysiology, Biochemistry and Microbiology.

COURSE SYLLABUS

BLOCK 1. CANCER

- TOPIC 1. Oncology therapy. Generalities.
- TOPIC 2. Oncology therapy. Antineoplastic drugs.

BLOCK 2. ENDOCRINE SYSTEM

- TOPIC 3. Pharmacology of hypothalamic and pituitary hormones.
- TOPIC 4. Pharmacology of thyroid hormones.
- TOPIC 5. Pharmacology of calcium and phosphorus. Parathyroid hormones. Osteoporosis
- TOPIC 6. Pharmacology of pancreatic hormones. Insulin and oral hypoglycemic agents.
- TOPIC 7. Pharmacology of sex hormones.
- TOPIC 8. Lipid-lowering drugs. Obesity

BLOCK 3. PHARMACOLOGY OF THE INFLAMMATORY AND IMMUNE RESPONSE

- TOPIC 9. Antiarthritic drugs: Gout and arthritis.
- TOPIC 10. Steroids and steroidal anti-inflammatory drugs.
- TOPIC 11. Immune response-modifying drugs.

BLOCK 4. RESPIRATORY SYSTEM

- TOPIC 12. Bronchodilator drugs.
- TOPIC 13. Antitussive, mucolytic and secretion-modifying drugs.

BLOCK 5. INTERNAL ENVIRONMENT

TOPIC 14. Pharmacology of hemostasis, coagulation and fibrinolysis.

TOPIC 15. Antianemic drugs and hemopoietic growth factors.

BLOCK 6. INFECTIOUS DISEASES

TOPIC 16. Basic principles of anti-infective therapy.

TOPIC 17. Drugs that interfere with bacterial wall synthesis.

TOPIC 18. Bacterial protein synthesis inhibitors.

TOPIC 19. Agents that modify nucleic acids. Agents that modify the permeability of the cell membrane.

TOPIC 20. Agents that interfere with the folic acid pathway.

TOPIC 21. Antimycobacterial drugs.

TOPIC 22. Antifungal drugs.

TOPIC 23. Antiviral drugs.

BLOCK 7. PHARMACOLOGY OF THE SKIN AND SENSE ORGANS

THEME 24. Dermatological pharmacology.

TOPIC 25. Ocular pharmacology.

PRACTICES: Practical sessions will be held to help the student understand the mechanisms of action and pharmacological effects of medications and will deepen the pharmacotherapeutic evaluation of patients.

EDUCATION ACTIVITIES

- In-person Activities: AFP1. AFP2 Theory Classes. Practical classes. AFP3. Exercise classes and problems. AFP4. Seminars and/or exhibition of works. AFP5. Tutoring. AFP6. Carrying out exams. - Self-employment: AFNP1. Study of theory, exercises and problems. AFNP2. Preparation and study of practices. AFNP3. Preparation of works. AFNP4. Tutoring preparation. Understanding: -Theoretical classes: They will be based on master classes, supported by teaching resources and trying to promote student interest and involvement by posing brief questions. -Practical classes: Simulation work sessions in small groups supervised by the teacher. -Exercise classes and exhibition of works: Questions and/or works will be selected and presented to be solved and debated by students. -Tutoring: They allow us to resolve any doubts that may have arisen during other teaching activities. The tutoring schedule can be consulted in the degree coordinator and will be informed by the teacher at the beginning of the course. The Virtual Classroom platform will be very useful for monitoring and effective communication between students and the teacher. In the Virtual Classroom, the student will have information and material to support the classes to promote the study of the subject. It will also allow the submission of scheduled exercises and activities, resolved individually.

DISTRIBUTION OF WORK TIME

TEACHER-LED TRAINING ACTIVITIES	INDIVIDUAL WORK
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65 Horas	85 Horas
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Cross Skills

To nurture an attitude of intellectual curiosity and a quest for truth in all areas of life.

To be able to approach a subject by means of rigorous, profound and comprehensive thought.

To be able to assess knowledge acquired.

To be able to apply the theoretical knowledge learnt in the of solving problems and practical cases linked to the various subjects.

LEARNING RESULTS

Use medicines safely, taking into account their physical and chemical properties, including any risks associated with their use.

Promote the rational use of medicines and medical devices.

Acquire the necessary skills to be able to provide therapeutic advice in pharmacotherapy and diet therapy, as well as nutritional and dietary advice to users of the establishments in which they serve.

Know the properties and mechanisms of action of drugs.

Evaluate the effects of substances with pharmacological activity.

SPECIFIC LEARNING RESULTS

Learn about existing drugs and therapeutic groups.

Identify and distinguish the mechanisms of action and effects of drugs, in order to understand their therapeutic applications and adverse reactions.

Acquire skills for the correct management of any substance that is used for therapeutic and diagnostic purposes.

Know how to manage a patient's entire treatment.

Acquire the pharmacotherapeutic knowledge necessary to carry out their healthcare work by promoting the rational use of medicines.

LEARNING APPRAISAL SYSTEM

ORDINARY EVALUATION SYSTEM This is the priority system applicable to all students. It is based on continuous evaluation throughout the course, and is focused on the theoretical-practical knowledge that the student must have acquired and their reasoned assimilation to enable their interrelation and correct application. ISE1. Written tests (65%). IF 2. Daily activities and exercises (5%). IF 3. Individual and group work (10%). IF 4. Participation (2%). IF 5. Practices (18%) Attendance at all PRACTICAL SESSIONS (regardless of where they take place: laboratory, computer rooms, simulation rooms, etc.) is MANDATORY. The unjustified absence of any of these sessions leads to the loss of the right to an internship evaluation in the ordinary call and a suspension of the course. Students in this situation should immediately contact the teacher. In order to pass the subject, minimum requirements are essential: - Have completed and passed the internships and works/activities. - Obtain at least 50% of the maximum grade of the theory exam. - Obtain at least a 5 in the overall grade. The score corresponding to the continuous evaluation will only be counted once the part of the theory exam has been passed. In the extraordinary call, the same evaluation system is maintained, saving the grades obtained in daily activities, work, participation and in the tests passed. **ALTERNATIVE EVALUATION SYSTEM** This system is intended for REPEATING students who do not take advantage of the ordinary evaluation system because they are unable to attend classes on a regular basis. It is MANDATORY that students in second enrollment and subsequent students who want to take advantage of this system CONTACT the teacher IN THE FIRST WEEK OF CLASS to request to take advantage of this evaluation system: - Written tests (67%) - Individual work and exercises (15%) - Practices (18%): consult with the teacher in each case to verify the validity of the practice note from the previous enrollment. Plagiarism, as well as the use of illegitimate means in evaluation tests, will be sanctioned in accordance with the University's Evaluation Regulations and Coexistence Regulations.

ETHICAL AND RESPONSIBLE USE OF ARTIFICIAL INTELLIGENCE

- 1.- The use of any Artificial Intelligence (AI) system or service shall be determined by the lecturer, and may only be used in the manner and under the conditions indicated by them. In all cases, its use must comply with the following principles:
 - a) The use of AI systems or services must be accompanied by critical reflection on the part of the student regarding their impact and/or limitations in the development of the assigned task or project.
 - b) The selection of AI systems or services must be justified, explaining their advantages over other tools or methods of obtaining information. The chosen model and the version of AI used must be described in as much detail as possible.
 - c) The student must appropriately cite the use of AI systems or services, specifying the parts of the work where they were used and describing the creative process followed. The use of citation formats and usage examples may be consulted on the Library website(https://www.ufv.es/gestion-de-la-informacion_biblioteca/).
 - d) The results obtained through AI systems or services must always be verified. As the author, the student is responsible for their work and for the legitimacy of the sources used.
- 2.- In all cases, the use of AI systems or services must always respect the principles of responsible and ethical use upheld by the university, as outlined in the [Guide for the Responsible Use of Artificial Intelligence in Studies at UFV](#). Additionally, the lecturer may request other types of individual commitments from the student when deemed necessary.
- 3.- Without prejudice to the above, in cases of doubt regarding the ethical and responsible use of any AI system or service, the lecturer may require an oral presentation of any assignment or partial submission. This oral evaluation shall take precedence over any other form of assessment outlined in the Teaching Guide. In this oral defense, the student must demonstrate knowledge of the subject, justify their decisions, and explain the development of their work.

BIBLIOGRAPHY AND OTHER RESOURCES

Basic

Juan Antonio Armijo Simon, Africa Mediavilla Martínez, Jesús Flórez Beledo. Human Pharmacology [Electronic Resource]/6th ed. Madrid: Elsevier Health Science, 2013

directors, Pedro Lorenzo Fernández... [et al.]. Velázquez: manual of basic and clinical pharmacology/19th ed. Madrid: Editorial Médica Panamericana, 2018

Additional

Goodman & Gilman. The pharmacological basis of therapeutics/10th ed. Mexico: McGraw-Hill, 2003