

**COURSE DATA****Data Subject**

<b>Code</b>	34370
<b>Name</b>	Pharmacology
<b>Cycle</b>	Grade
<b>ECTS Credits</b>	6.0
<b>Academic year</b>	2019 - 2020

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
1200 - Degree in Nursing	Faculty of Nursing and Chiropody	2	First term
1213 - Grado en Enfermería (Ontinyent)	Faculty of Nursing and Chiropody	2	First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
1200 - Degree in Nursing	12 - Pharmacology and dietetics	Basic Training
1213 - Grado en Enfermería (Ontinyent)	12 - Farmacología y dietética	Basic Training

**Coordination**

<b>Name</b>	<b>Department</b>
BRAGE SERRANO, RICARDO	125 - Nursing
TRAPERO GIMENO, MARIA ISABEL	125 - Nursing

**SUMMARY**

The Pharmacology course in the curriculum of a degree in Nursing, belongs to the block of core subjects as part of the whole matter of deepening. This course is in the second year of degree in the first quarter. The basic objective of Pharmacology is to improve patient care by promoting the use of drugs safely and effectively (WHO, 1970).

The exercise of nursing practice, in various forms of general or specialized care, necessarily involves the use of drugs and medical devices. Specifically, the process of nursing care is especially important during the administration of medication and monitoring pharmacotherapy, nursing care seek drug treatment adapted to the changing needs of the patient.



Moreover, Law 28/2009 for the amendment of Law 29/2006 of 26 July, on guarantees and rational use of medicines and medical devices, notes among other things, that: "Nurses, so autonomous, they may prescribe, authorize the use and dispensing of drugs not anyone on prescription and medical devices, by an order of dispensation". Furthermore, "The Government will regulate the display, use and authorization of certain medications dispensed on prescription by nurses, under the principles of comprehensive care and continuity of care by implementing protocols and guidelines clinical practice and care, joint development, agreed with collegial organizations of doctors and nurses and validated by the Quality Assurance Agency National Health System". Which opens the door, in our country to a future prescribing by nurse practitioners.

Both the General Pharmacology and Clinical Pharmacology are fundamental in shaping the future nurse, since rational treatment is based almost entirely on the principles acquired through education and training in Pharmacology. Thus, this subject will be studied first, the basic principles by which drugs are incorporated into the body, are distributed and eliminated, and the basis of their mechanisms of action. And later in the special section, we provide knowledge of the therapeutic effects and undesirable pharmacokinetic properties and mechanisms of action of different pharmacological groups.

## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

To achieve the objectives and competencies described it is important that the student has a good knowledge of materials that make up the nursing degree, such as anatomy, biology, physiology and pathophysiology.

## COMPETENCES (RD 1393/2007) // LEARNING OUTCOMES (RD 822/2021)

### 1200 - Degree in Nursing

- Know the use and suitability of health products linked to nursing care, paying special attention to differences according to age and gender.
- Work as a team, understood as a basic unit into which professionals and other workers of health care organisations are integrated, structured and organised in single- or multi-disciplinary and inter-disciplinary teams, as a way of ensuring the quality of health care.
- Maintain and update professional skills, with particular emphasis on independent learning of new knowledge and skills and motivation for quality in health care.
- Plan and provide nursing care for individuals, families or groups, focusing on health results and evaluating its impact, using guides to clinical practice and care that set out the processes involved in the diagnosis, treatment or care of a health problem.



- Offer health education actions using strategies that are appropriate to individuals, families and communities, making scientific information and recommendations available to the population in an understandable language.
- Be able to formulate hypotheses and to gather and critically assess information to resolve problems by applying, among others, the gender approach.
- Know the different groups of medicines, the principles of authorisation, their use and indication and their mechanisms of action. Know the use of medicines, evaluating the expected benefits and associated risks and/or the side effects derived from their administration and consumption according to gender difference.
- Bachelor's thesis. Cross-disciplinary subject area involving work related to different subjects.

## **LEARNING OUTCOMES (RD 1393/2007) // NO CONTENT (RD 822/2021)**

1. Students understand the rational use of drugs is based on existing knowledge about them; according to their mechanism of action and pharmacokinetics in humans, in normal and pathological.
2. Students know the different groups of drugs, the principles of its authorization, use and display and the mechanisms of their action.
3. Students have the ability to use medications properly, assessing the expected benefits and associated risks and / or side effects from administration and consumption.
4. Students have developed the skills necessary for the administration of drugs by adapting the procedure to the patient characteristics.
5. Students have to identify the main causes of individual variation in drug response, the consequences could be lack of efficacy or toxicity in some cases in others.
6. Students are able to integrate the knowledge gained to implement measures to prevent or mitigate the toxicity of drugs.
7. Students know how to transmit the information to receive the patient and family as well as the risks associated with rational self-medication.

## **DESCRIPTION OF CONTENTS**

### **1. PRINCIPLES OF PHARMACOLOGY**

LESSON 1. PHARMACOLOGY: CONCEPT AND OBJECTIVES

LESSON 2. PHARMACODYNAMICS

LESSON 3. PHARMACOKINETICS

LESSON 4. INDIVIDUAL VARIABILITY

LESSON 5. DRUG INTERACTIONS

LESSON 6. DRUG SAFETY

\* NOTE: The contents of this lesson correspond to the theoretical and practical teaching methodology



## **2. PHARMACOLOGY IN NURSING PRACTICE**

### LESSON 7. NURSING CARE

\* NOTE: The contents of this unit correspond to the theoretical and practical teaching methodology

## **3. AUTONOMIC NERVOUS SYSTEM**

### LESSON 8. GENERAL PHARMACOLOGY OF AUTONOMIC NERVOUS SYSTEM

### LESSON 9. CHOLINERGIC TRANSMISSION. CHOLINERGIC AGONISTS AND ANTAGONISTS

### LESSON 10. NORADRENERGIC TRANSMISSION. ADRENERGIC AGONISTS AND ANTAGONISTS

## **4. CELLULAR MEDIATORS: ALLERGY. INFLAMATION. PAIN. IMMUNITY.**

### LESSON 11. HISTAMINE AND ANTIHISTAMINES

### LESSON 12. SEROTONIN

### LESSON 13. NONSTEROIDAL ANTIINFLAMMATORY DRUGS (NSAIDS)

### LESSON 14. OPIOID ANALGESICS

### LESSON 15. GLUCOCORTICIDS

### LESSON 16. IMMUNOSUPPRESSIVE DRUGS

## **5. CARDIOVASCULAR AND BLOOD DISEASE**

### LESSON 17. DIURETICS DRUG

### LESSON 18. INHIBITORS OF THE RENIN-ANGIOTENSIN SYSTEM

### LESSON 19. CALCIUM ANTAGONISTS

### LESSON 20. ORGANIC NITRATES

### LESSON 21. CLASSIFICATION OF BLOOD VOLUMEN DILATING

### LESSON 22. ANTIARRHYTHMIC DRUGS

### LESSON 23. ANTIHYPERLIPIDEMIC DRUGS

### LESSON 24. ANTIPLATELET, ANTICOAGULANT AND FIBRINOLYTIC

### LESSON 25. ANTIANEMIC AND HEMATOPOIETIC GROWTH FACTORS



## **6. RESPIRATORY DISEASE**

LESSON 26. DRUGS FOR ASTHMA, COPD AND OTHER RESPIRATORY DISORDERS

\* NOTE: The contents of this unit correspond to the theoretical and practical teaching methodology

## **7. GASTROINTESTINAL DISEASE**

LESSON 27. DRUGS FOR CONTROL OF THE GASTRIC ACID SECRETION

LESSON 28. PHARMACOLOGY OF VOMITING AND INTESTINAL MOTILITY

## **8. ENDOCRINE DISEASE**

LESSON 29. THYROID HORMONES AND ANTITHYROID DRUGS.

LESSON 30. DRUGS USED IN THE TREATMENT OF DIABETES MELLITUS

LESSON 31. FEMALE SEXUAL HORMONES. HORMONAL CONTRACEPTIVES

LESSON 32. BONE METABOLISM. PHARMACOLOGICAL TREATMENT OF OSTEOPOROSIS

## **9. PSYCHOPHARMACOLOGY**

LESSON 33. ANXIOLYTICS AND HYPNOTICS

LESSON 34. ANTIPSYCHOTICS

LESSON 35. DRUGS USED IN THE DISORDERS OF THE MOOD

LESSON 36. ABUSE AND ADDICTION TO DRUGS

## **10. ANESTHESIA**

LESSON 37. GENERAL ANESTHETICS

LESSON 38. LOCAL ANESTHETICS



## **11. NEUROLOGICAL DISEASE**

LESSON 39. ANTIEPILEPTIC DRUGS AND ANTICONVULSANTS DRUGS

LESSON 40. ANTIPARKINSONISM DRUGS

## **12. ANTI-INFECTIVES**

LESSON 41. ANTIMICROBIAL DRUGS: GENERAL ASPECT

LESSON 42. ANTIBACTERIAL DRUGS

LESSON 43. ANTITUBERCULOSIS DRUGS

LESSON 44. ANTIFUNGAL DRUGS

LESSON 45. ANTIVIRAL DRUGS

## **13. NEOPLASTIC GROWTH**

LESSON 46. CANCER CHEMOTHERAPY.

## **WORKLOAD**

<b>ACTIVITY</b>	<b>Hours</b>	<b>% To be attended</b>
Theory classes	50,00	100
Classroom practices	8,00	100
Tutorials	2,00	100
Development of group work	4,00	0
Study and independent work	74,00	0
Readings supplementary material	4,00	0
Preparation of practical classes and problem	4,00	0
Resolution of online questionnaires	4,00	0
<b>TOTAL</b>	<b>150,00</b>	

## **TEACHING METHODOLOGY**

Theoretical MODE participatory exhibition



- **Class:** The lectures are a must for students to acquire basic theoretical knowledge of the subject. It is desirable that students involved in class, so you try to create an environment favors the debate, and in which the student has need to ask and feel comfortable and relaxed doing, stimulate their involvement with various activities to achieve increased involvement in the subject. The theoretical lessons presented in these sessions are deposited prior to the virtual classroom sessions.

#### **PRACTICE MODE participatory exhibition**

Practices raised in four sessions that promote the relationship between knowledge and its application to practice, the student in the class expository lecture, learn the theoretical content of the program, and will strengthen through practical activities proposed. In addition, these sessions is to involve the students in teamwork as the engine of meaningful learning. The virtual classroom will be used as a means of communication between faculty and students, as well as to exchange documents and materials to support teaching of exclusive use for the subject.

## **EVALUATION**

- **PART 1 (80% of the total grade)**

Written test consisting of 80 questions consisting of a header consisting of a statement or presentation of a problem or situation, followed by 4 possible answers, including correct and other plausible so-called distraction. Every 5 wrong answers, subtract a success. The minimum grade to pass the test will be 5 out of 10. This test will assess the theoretical and practical content of the material. The test is divided into two parts, according to thematic units, so that students can be presented to half or all of the agenda. In the first call if only one party adopts, this score is kept for the second call.

- **PART 2 (20% of the total grade)**

This percentage of the note, evaluate the different activities undertaken by students, individually and in groups, raised in practical classes, seminars and other classroom activities, to be submit to the teacher in his log book on completion of the sessions. In addition, practical sessions are compulsory attendance and its realization is a necessary condition to pass the course.

## **REFERENCES**

### **Basic**

- Battista E. Lo esencial en Farmacología. 4ª edición 2013. Barcelona. Elsevier Mosby. (Disponible biblioteca CC Salut)
- Castells S, Hernández-Pérez M. Farmacología en Enfermería. 2012. 3ª edición. Barcelona: Elsevier.



- Somoza B. Farmacología Clínica en enfermería. Casos clínicos. 2012. Madrid. Panamericana.

#### **Additional**

- o Flórez J. Farmacología humana [Recurs electrònic] Publicació Madrid : Elsevier, 2016
- o Ruiz-Gayo M, Fernández-Alfonso M. Fundamentos de farmacología básica y clínica [Recurs electrònic] Publicació Madrid [etc.] : Médica Panamericana, cop. 2013
- o Rang HP, Dale MM. Farmacología [Recurs electrònic] . 8ª edición. Barcelona: Elsevier 2012.

#### **ADDENDUM COVID-19**

**This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council**

**English version is not available**