

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

<b>Code</b>	34074
<b>Name</b>	Clinical Pharmacy and Pharmaceutical Care
<b>Cycle</b>	Grade
<b>ECTS Credits</b>	6.0
<b>Academic year</b>	2022 - 2023

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
1201 - Degree in Pharmacy	Faculty of Pharmacy and Food Sciences	5	First term
1211 - Double Degree in Pharmacy and Human Nutrition and Dietetics	Faculty of Pharmacy and Food Sciences	5	First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
1201 - Degree in Pharmacy	22 - Clinical pharmacy and pharmaceutical care	Obligatory
1211 - Double Degree in Pharmacy and Human Nutrition and Dietetics	1 - Asignaturas obligatorias del PDG Farmacia-Nutrición Humana y Dietética	Obligatory

**Coordination**

<b>Name</b>	<b>Department</b>
MERINO SANJUAN, MATILDE	134 - Pharmacy and Pharmaceutical Technology

**SUMMARY**

Clinical Pharmacy and Pharmaceutical Care represent the paradigm of the pharmaceutical profession in relation to the rational use of medicines.

The **future clinical pharmacist** must acquire the skills and ability to identify, integrate and apply the information in the medical and pharmaceutical sciences to detect actual or potential related problems with drugs and resolved through communication, information and education to the patient (or caregiver) an integrated and co-responsible with other health professionals.



It should be noted that the focus of the subject and the competencies to be achieved by the students integrates the sustainable development goals (SDG) promoted by the United Nations (2030 agenda). Among them, it is worth highlighting, due to its direct relationship with the Clinical Pharmacy and Pharmaceutical Care, promoting responsible health management to guarantee the sustainability of the health system, the rational use of medicine and the promotion of community health (goal 3: good health and well-being, goal 10: reduced inequality) and quality education (goal 4). In addition, partnerships to achieve the goal is promoted in the subject (goal 17).

The **program** of the course presents the basic tools that will be necessary to the pharmacist to practice in the setting of care (patient care process and management system to perform both primary and specialized care). The **objectives** of this course are:

1. Promote pharmaceutical care practice, that is, patient-centered to provide drug therapy
2. To know the methodological bases for promoting rational drug use

To get outcomes that improve or maintain the quality of life of patients

asic tools that will be necessary to the pharmacist to practice in the setting of care (patient care process and management system to perform both primary and specialized care). The **objectives** of this course are:

- Promote pharmaceutical care practice, that is, patient-centered to provide drug therapy to obtain results that improve or maintain the quality of life of patients.
- To know the methodological bases for promoting rational drug use

Clinical Pharmacy and Pharmaceutical Care represent the paradigm of the pharmaceutical profession in relation to the rational use of medicines.

The **future clinical pharmacist** must acquire the skills and ability to identify, integrate and apply the information in the medical and pharmaceutical sciences to detect actual or potential related problems with drugs and resolved through communication, information and education to the patient (or caregiver) an integrated and co-responsible with other health professionals.

The **program** of the course presents the basic tools that will be necessary to the pharmacist to practice in the setting of care (patient care process and management system to perform both primary and specialized care). The **objectives** of this course are:

1. Promote pharmaceutical care practice, that is, patient-centered to provide drug therapy
2. To know the methodological bases for promoting rational drug use

To get outcomes that improve or maintain the quality of life of patients.

## PREVIOUS KNOWLEDGE



### **Relationship to other subjects of the same degree**

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

### **Other requirements**

It is recommended to have studied subjects:  
Biopharmaceutics and Pharmacokinetics,  
Pharmacology and Toxicology

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

### **1201 - Degree in Pharmacy**

- To know how interpret, value and communicate relevant data in the different aspects of pharmaceutical activity, making use of information and communication technologies.
- Skill to communicate ideas, analyze problems and solve them with a critical mind, achieving team-working abilities and assuming leadership whenever required.
- Know how to apply the scientific method and acquire skills in the management of legislation, information sources, bibliography, elaboration of protocols and other aspects that are considered necessary for the design and critical evaluation of preclinical and clinical trials.
- To develop communication and information skills, both oral and written, to deal with patients and other health professionals in the center where they carry out their professional activity. To promote the capacity of work and collaboration in multidisciplinary teams and those related to other health professionals.
- To recognize personal limitations and the need to keep up to date professional competence, paying particular attention to the self-learning of new knowledge based on available scientific evidences.
- Properly select and dispense medicines and other products of health interest using criteria of efficacy, safety, pharmacokinetic and cost / effectiveness.
- Provide therapeutic advice in pharmacotherapy and diet therapy.
- Promote the rational use of medicines and health products, as well as acquire basic knowledge in clinical management, health economics and efficient use of health resources.
- Identify, evaluate and assess problems related to drugs and medicines, as well as participate in pharmacovigilance activities.
- Carry out clinical and social pharmacy activities, following the cycle of pharmaceutical care.
- Assessing the therapeutic and toxic effects of substances with pharmacological activity

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



- Identify relevant information about drugs and critically evaluate this information in order to provide objective and verified (using ICT) to both healthcare professionals and patients.
- Assess the clinical trials and scientific evidence to promote the selection of drugs and their rational use.
- Select and dispense medications properly and other health products of interest using the criteria of efficacy, safety, pharmacokinetics suitability and cost / effectiveness.
- Provide therapeutic counseling and health promotion at both the dispensing process, indicating, as in the pharmacotherapy follow-up.
- Identify, evaluate and assess the problems related to drugs, as well as to detect, prevent and resolve negative results of medication and participate in the activities of pharmacovigilance.

## DESCRIPTION OF CONTENTS

### 1. Clinical Pharmacy and Pharmaceutical Care: introduction and clinical activities

Introduction to the Pharmaceutical Health and Welfare clinical Trials.

Pharmacovigilance

Pharmacotherapeutic management

Information and Communication Technologies (Electronic Health Records)

### 2. Clinical Pharmacy and Pharmaceutical Care: processes and procedures

Prescription drugs

Dispensing

Pharmaceutical indication

Communication Skills

Quality of care: safety and effectiveness of drugs

Pharmacotherapy follow custom.

Quality of care in the context of Clinical Pharmacy

Systems pharmacotherapeutic quality management

Patient outcomes

### 3. Clinical Pharmacy and Pharmaceutical care in special population groups

Active dispensation and indication in community pharmacy

Pharmaceutical care in minor symptoms related with respiratory system and pain

Pharmaceutical care in minor symptoms related with digestive system and skin

Pharmaceutical care in pregnancy, lactation and pediatric

Pharmaceutical care in geriatrics

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	28,00	100
Computer classroom practice	20,00	100
Seminars	6,00	100
Tutorials	2,00	100
<b>TOTAL</b>	<b>56,00</b>	

**TEACHING METHODOLOGY**

The teaching methods used in this subject make it easier for the student to know the SDGs and work online with them. In particular, highlight the activities proposed in practices and seminars.

- **Lectures.** In the lectures the teacher will make a presentation of the concepts and content of each topic, highlight the fundamentals for understanding. Teacher will solve any questions or issues that arise in the classroom.
- **Practical classes.** Practical classes will be held in the Clinical Pharmacy classroom, in the CESIS or in a computer lab and will be distributed in 5 sessions of 4 hours each. The objective is that the student will be able: to provide patients with the information required to optimize the use of drugs, to obtain and analyse information related to treatment and clinical condition of patients; in order to identify opportunities for improvement and participate in patient monitoring. In the session, the teacher will indicate relevant issues and will guide the student in the use of technology of information in health for communication and registration of the activities.
- **Seminars.** Will be devoted to apply and deepen on various aspects of the subject. The teacher will provide the materials required and will propose a series of activities to promote learning. Students will work in groups the selected topics. Students will deliver a report and will present and discuss it in the classroom. Problem based learning (PBL) and service learning will be used.
- **Tutorials.** Students will come to them in groups. In them, the teacher will guide the students about the elements of the learning process, general statements as well as specific issues.

**EVALUATION**

The assessment of student learning will take into consideration all sections exposed in teaching methodology section of this guide. For this, the course is divided into three parts: theory, practice and seminars:

The rating theory block constitutes 55% of the final grade. It will be evaluated through a written exam consisting of conceptual questions and multiple choice questions that allow the student to demonstrate the degree of assimilation of fundamental concepts. They may also include topics to be developed that allow the student to demonstrate the ability of synthesis and exposure. The minimum score that is to be obtained in theory block to average with other activities of the course is 5.



To evaluate the block of practices the student must attend all practice sessions. For this reason, if a student is unable to attend a practice session, if properly justified, the teacher will register him/her in another later group. A written exam will be carried out on the issues discussed in the practice sessions, together with the theory exam (1st conv or 2nd conv). The mark obtained will represent 30% of the final grade. The minimum score required to pass this block is 5. If a student fails to pass the course, the grade obtained in the block of practices may be maintained for two subsequent courses.

The evaluation of the block of seminars represents 15% of the final grade. It will be mandatory to deliver the tasks requested by the teacher, which will represent 70% of the grade for this activity. The remaining 30% of the qualification will correspond to the score obtained in the active participation in the preparation of the activities in the classroom.

According to the guidelines of the CAT of Pharmacy (May 14, 2012), students who do not show the theory exam but have participated and note any / s of the teaching activities carried out (seminars,, computer room, tutoria, etc..) will be assessed as not shown in the first round, but still not submitted for consideration by theory, the final grade on the second call will take into account the marks obtained in the various activities and thus may appear as **SUSPENSE**.

## REFERENCES

### Basic

- Herrera J. Manual de Farmacia Clínica y Atención Farmacéutica. Elsevier, 2003.
- Climente M. Jiménez NV. Manual para Atención Farmacéutica. Ivadis. 3ª edición. 2005
- Jiménez NV. Borrás C. Climente M y Merino M. Calidad farmacoterapéutica. Editorial Universitat de Valencia. 2ª edición 2008.
- Faus MJ. Amariles P. y Martínez-Martínez F. Atención Farmacéutica. Conceptos, procesos y casos prácticos. Ergón. 2008.
- Herrera J. y Montero JC. Atención Farmacéutica en Geriátria. Elsevier. 2005.
- Herrera J. y Montero JC. Atención Farmacéutica en Pediatría. Elsevier. 2007.

### Additional

- Baos V y Faus MJ. Protocolos de indicación farmacéutica y criterios de derivación al médico en síntomas menores. Fundación Abbott. 2008.
- Método DÁDER. Guía de Seguimiento Farmacoterapéutico. D Sabater, MM Silva y MJ Faus . Ed. La Gráfica. 2007. Granada.
- Jiménez NV. Font I. y Climente M. Problemas Farmacoterapéuticos. Guía para su prevención y resolución. Ivadis. Valencia 2003.
- Baños JE y Farré M. Principios de Farmacología Clínica. Masson 2002.



- Stockey. Interacciones Farmacológicas. 3ª edición Pharma Editores 2009.
- Foro de Atención Farmacéutica-Farmacia Comunitaria (Foro AF-FC).Guía práctica para los Servicios Profesionales Farmacéuticos Asistenciales en la Farmacia Comunitaria. Madrid: Consejo General de Colegios Oficiales de Farmacéuticos; 2019.
- Documento de Consenso. Foro de Atención Farmacéutica. Enero 2008
- Recursos en internet:  
Sociedad Española de Farmacia Hospitalaria: <https://www.sefh.es/>  
Sociedad Española de Farmacéuticos de Atención Primaria: <https://www.sefap.org/>  
Agencia Española del Medicamento: <https://www.aemps.gob.es/>  
Agencia Europea del Medicamento: [https://europa.eu/european-union/about-eu/agencies/ema\\_es](https://europa.eu/european-union/about-eu/agencies/ema_es).  
Consejo General de Colegios Oficiales de Farmacéuticos: <http://www.cof.es/>  
Sociedad Española de Farmacia Clínica, Familiar y Comunitaria (SEFAC): <https://www.sefac.org/>  
Portalfarma [www.portalfarma.com](http://www.portalfarma.com)