

Degree programme	Type	Course
Nursing	FB	2

Contact lecturer

Name : Belén Pérez Fernández

Email : belen.perez@uab.cat

Teaching staff

Maria Llorian Salvador

Africa Dominguez Oliver

Gisela Gili Serrat

Monique Nakayama Torres

Francesc Jimenez Altayo

Group languages

You can consult this information at the [end](#) of the document.

Prerequisites

There are no prerequisites for taking the course of Clinical Pharmacology. However, it is recommended that students should previously have studied "Structure of the Human Body" and "Human Body's function".

Objectives

Pharmacology is a 6 ECTS credits' subject and is considered compulsory in the syllabus of the Universitat Autònoma de Barcelona to obtain the Nursing degree.

The therapeutic approach with drugs is one of the pillars in which the control of diseases are based on our present society. Nursing professionals play a very active role in carrying out activities related with the pharmacological therapy. Evaluation of effectiveness, prevention, detection and action in front of unwanted effects, the administration of drugs and, last but not least, health education are functions that must be developed in a systematic and integrated way in their daily work.

The competent development of the functions implies that nursing professionals should be updated periodically in pharmacological procedures and knowledge. Access to reliable sources of information, independent and updated is essential to update the knowledge.

Training objectives:

- To know the different groups of medicaments, the principles of their authorization, the mechanisms of action,

the pharmacokinetic and pharmacodynamics characteristics and their main indications.

- To know the expected benefits and the associated risks of the administration or consumption of the different groups of drugs.
- To acquire skills for the development of activities related to pharmacological therapeutics.
- To acquire skills in the search and synthesis of pharmacological information for the resolution of clinical cases.

Learning outcomes

- CM05 (Administer drugs according to the different routes, following the appropriate safety measures.) Administer drugs according to the different routes, following the appropriate safety measures.
- KM11 (Describe the foundations of nurse prescription.) Describe the foundations of nurse prescription.
- KM12 (Identify the use and indications of healthcare products linked to nursing care.) Identify the use and indications of healthcare products linked to nursing care.
- KM13 (Identify the different groups of drugs, the principles of their authorisation and their routes of administration, as well as their use, indications and mechanisms of action.) Identify the different groups of drugs, the principles of their authorisation and their routes of administration, as well as their use, indications and mechanisms of action.
- SM01 (Use scientific evidence in professional practice.) Use scientific evidence in professional practice.
- SM04 (Choose the uses, indication and mechanisms of action of drugs and healthcare products that may be prescribed or indicated by the nurse in accordance with current legislation.) Choose the uses, indication and mechanisms of action of drugs and healthcare products that may be prescribed or indicated by the nurse in accordance with current legislation.
- SM05 (Assess the benefits and risks of drug administration and potential adverse reactions) Assess the benefits and risks of drug administration and potential adverse reactions

Contents

Theory

The pharmacokinetic and pharmacodynamic principles of each of the pharmacological groups used for the treatment of the most prevalent pathologies are described, along with the mechanisms of action of the materials and the key points of their use and safe administration.

Topic 1. Introduction to clinical pharmacology: general concepts about medications and health products and bibliography of interest.

Topic 2. Pharmacokinetics: processes of absorption, distribution, biotransformation and elimination of medications from the organism.

Topic 3. Pharmacodynamics: target receptors, agonist and antagonist drugs, drug action mechanisms.

Topic 4. Pharmacology of the central nervous system.

Topic 5. Pharmacology of the autonomic nervous system.

Topic 6. Tractament de malalties respiratòries.

Topic 7. Pain treatment.

Topic 8. Cardiovascular drugs: heart attack, angina, hypertension and heart failure.

Topic 9. Hypoglycemic drugs and corticosteroids.

Topic 10. Treatment of digestive malalties.

Topic 11. Pharmacovigilance: general concepts and regulations for the notification of adverse reactions.

Topic 12. Cytostatic drugs: general concepts and regulations for the treatment of cytotoxic residues.

Topic 13. Pharmacological therapy of infectious processes.

Classroom Practices

The theoretical continguts are applied in the discussion of topics based on the analysis of situations and the bibliographical fence. It is presented the work carried out by the groups and/or synthesis of the activities.

Practice 1. Pharmacological history

Practice 2. Introduction to safety in medication administration and dose calculation

Practice 3. Solving dose calculation problems

Practice 4. Self-learning. Resolution of clinical cases (pharmacology of sexual hormones and NSAIDs)

Practice 5. Medication errors and pharmacological considerations en pediatrics

Practice 6: Pharmacovigilance and Arrest cart

Learning activities and methodology

Title	Hours	ECTS	Learning outcomes
ACTIVITIES WITHOUT A TEACHER	10	0.4	KM13, SM01, SM04, SM05
SELF-STUDY	78	3.12	CM05, KM11, KM12, KM13, SM04, SM05
CLASSROOM PRACTICES BASED ON CASE STUDIES AND PROBLEM- SOLVING	11	0.44	CM05, KM13, SM01, SM05
THEORY (TE)	39	1.56	CM05, KM11, KM12, KM13, SM04, SM05
TUTORIALS	6	0.24	

1.-Theory lessons in which the contents of the subject will be developed. The goal of the theoretical classes is to explain the fundamental basic concepts.

2.- Classroom practices in which students will have an active participation dealing with predetermined situations and practical cases, through the exchange of partial information, the collective analysis of these information and the subsequent debate, and the exhibition of works in common. The objective of these classroom practice is to know the most useful sources of information in pharmacology and to relate the theoretical concepts, nursing activity and decision making to give a synthetic response to the situation raised

3.-Moodle: This tool will be used for the repository of documentation and delivery of evaluable activities. The objective is to facilitate the follow-up of the subject, the learning of contents and skills and the continuous evaluation.

4.-Individual tutorials for students who may need them, according to the teacher's criteria or the student's demand.

Annotation: within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continuous assessment activities

Title	Weight	Hours	ECTS	Learning outcomes
Written evaluation through objective tests (2nd part): multiple choice	37,5%	2	0.08	CM05, KM11, KM12, KM13, SM04, SM05
Evaluation of classroom practices through case studies and problem solving	25%	2	0.08	CM05, KM13, SM01, SM05

Written evaluation through objective tests (1st part): multiple choice	37,5%	2	0.08	CM05, KM11, KM12, KM13, SM04, SM05
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Competencies will be assessed through a final, formative and continuous assessment. The grading system will be alpha-numeric.

Theory

Written assessment through objective tests. The written objective tests will cover theoretical material and will be organized into 2 parts with multiple-choice questions. They will have a specific weight of 75% on the final grade of the subject.

Classroom practices:

Assessment of solving problems of calculating drug doses. They will have a specific weight of 10% on the final grade of the subject.

Assessment of group work on discussion and case solutions. Oral defense of group work and/or synthesis of the topics worked on in the classroom. They will have a specific weight of 15% on the final grade of the subject.

Attendance at classroom practices: it will be necessary to attend at least 70% to pass the subject.
Non-attendance must be justified

In outline, it will be evaluated as follows:

- Theory

Two partial tests: numerical grade between 0-10, each of the tests will represent 37.5% of the final grade. The first test will be held during the month of November and the second once the subject has been completed.

Final remedial test: writtentest type test in the event of not having cleared the subject in the two partial tests. Numerical grade between 0-10 (75% of the final grade).

- Classroom practices

Solution of dose calculation problems: numerical grade between 0-10 (10% of the final grade).

Group work: numerical grade between 0-10 (15% of the final grade).

In the classroom practices of this subject, the use of Artificial Intelligence (AI) technologies is allowed exclusively in support tasks, such as bibliographic or information searches for the correct development of the assigned tasks. The student must clearly identify which parts have been generated with this technology, specify the tools used and include a critical reflection on how these have influenced the process and the final result of the activity. The lack of transparency of the use of AI in this assessable activity will be considered a lack of academic honesty and may lead to a partial or total penalty in the grade of the activity, or greater sanctions in serious cases

To pass the subject:

You must have a score of 5 or more in each of the 2 partials and a score of 5 or more in the dose calculation test and 5 or more in the group work of the classroom practices.

To participate in the recovery, the student must have previously been evaluated in a set of activities whose weight is equivalent to a minimum of 62% of the total grade of the subject.

Definition of NOT EVALUABLE: it will be understood as not assessable when:

- the student does not take the written objective tests of multiple-choice questions
- the student misses more than 30% of the classroom practices without justification.

This subject does not provide for the single evaluation system

Exam review: Written tests may be reviewed during the period determined for this purpose, once the final grade has been published. Requests for review on dates outside the established limit will not be accepted.

Treatment of any particular cases: an evaluation committee will meet to treat these cases.

The performance of any irregularity in an assessment act (academic fraud, plagiarism or improper use of AI, unless this use is expressly authorised in the teaching guide), which may lead to a significant variation in the grade, means that this act will be graded with a 0. In the event that the teaching guide provides that in order to pass the subject it is an essential requirement to have obtained a minimum grade in this assessment act or that there are various irregularities in the assessment acts of the same subject, the final grade for this subject is 0. Apart from this, a disciplinary process may be instituted for the student who incurs in any of these irregularities

Bibliography

Nurse specific

Roger McFadden and Patricia Fell. Introducing Pharmacology for nursing ant health professionals. Fourt Edition. Routledge.2025

Castells S, Hernández M. Farmacología en enfermería. 4ª ed. Barcelona: Elsevier; 2024.

Mosquera JM, Galdós P. Farmacología clínica para enfermería. 4ª ed. Madrid: McGraw-Hill Interamericana; 2005.

Dose calculation

Boyer, Mari Jo. Matemáticas para enfermeras. Guía de bolsillo para el cálculo de dosis y la preparación de medicamentos. 10ª Edición. Ed. Lippincott Williams & Wilkins. 2020.

Harvey M. Cálculo y administración de medicamentos.5a ed. Barcelona: Wolters Kluwer; 2018.

General

James M. Ritter,Rod Flower, Graeme Henderson,Yoon Kong Loke, David MacEwan, Humphrey P.Rang. Rang & Dale´s Pharmacology. Ninth edition. Elsevier Health Sciences; 2020

Flórez J, Armijo JA, Mediavilla A. Farmacología Humana. 6ª edición. Barcelona: Elsevier Masson SA; 2014. Lüllmann, Mohr, Hein. Farmacología: texto y atlas. 6ªedición. Barcelona: Masson; 2010.

Raffa, Robert B. Netter. Farmacología ilustrada. Barcelona : Elsevier, cop. 2008

Golan DE, Tashjian AH, Armstrong EJ, Armstrong AW. Principios de farmacología. 5ª edició. Barcelona: Lippincott Williams & Wilkins 2017

Diccionari Enciclopèdic de Medicina: <https://cit.iec.cat/DEM/default.asp?opcio=1>

WEBgrafia

Agència Espanyola del Medicament i Productes Sanitaris (AEMPS):

www.aemps.gob.es/cima

Canal Salut de la Generalitat de Catalunya

<http://medicaments.gencat.cat/ca/inici/>

Harmonization guidelines

<https://catsalut.gencat.cat/ca/proveidors-professionals/farmacia-medicaments/programa-harmonitzacio-farmacot>

Newsletters

<https://catsalut.gencat.cat/ca/proveidors-professionals/farmacia-medicaments/gestio-del-coneixement/butlletins>

The Registered Nurses' Association of Ontario (RNAO)

<http://rnao.ca/bpg/language?tid=261>

Software

NA

Course groups and languages

The information provided is provisional until November 30. After this date, you will be able to consult the language of each group through this [link](#). To access the information, you will need to enter the course CODE

Type of teaching	Group	Language	Semester	Shift
(TE) Theory	101	Catalan	first semester	morning-mixed
(PAUL) Classroom practices	101	Catalan	first semester	morning-mixed
(TE) Theory	102	Catalan	first semester	morning-mixed
(PAUL) Classroom practices	102	Catalan	first semester	morning-mixed
(TE) Theory	103	Catalan	first semester	afternoon
(PAUL) Classroom practices	103	Catalan	first semester	morning-mixed
(PAUL) Classroom practices	104	Catalan	first semester	afternoon
(PAUL) Classroom practices	105	Catalan	first semester	afternoon