COURSE DATA

DATA SUBJECT

Code: 33965
Name: Pharmacology
Cycle: Undergraduate Studies
ECTS Credits: 4.5
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
1205 - Degree in Human Nutrition and Dietetics	Facultat de Farmácia i Ciències de L'alimentació	4	First quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1205 - Degree in Human Nutrition and Dietetics	Pharmacology	COMPULSORY

COORDINATION

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SUMMARY

Pharmacology is an important subjec tin the training of future graduates in Human Nutrition and Dietetics. Pharmacology is the science that studies the actions and properties of drugs in live organisms, understanding the term "drug" as any chemical used in the treatment, prevention or diagnosis of a disease, or to avoid the appearance of an unwanted physiological process.
The contents of the subject Pharmacology in the Degree in Human Nutrition and Dietetics gather general aspects of pharmacokinetics, pharmacodynamics and pharmacotherapy. In addition, the general principles of drug action are established for better understanding how the drugs work according to the organs and physiological systems in which they operate. We further learn the fundamental aspects for the future nutritionist: The main groups used in diseases that require adequate dietary advice for control, and pharmacological groups that can influence the nutritional status. We also study the influence of nutritional status in drug response and potential drug-food interactions.

In the current curriculum this subject is in the fourth year of the Bachelor's Degree and has 4.5 credits It is placed in the first semester of the academic year and is mandatory.

The credits are distributed as follow: 35h devoted to theoretical classes (four days a week), 3 hours of

practical classes in the computer classroom (in one session), 2 hours of seminars, 2 hours of group tutorials and 2 hours for the theoretical exam.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

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

OTHER REQUIREMENTS

There is no administrative restriction concerning other academic subjects, Nevertheless, in order to reach a proper learning and achieve the competencies derived from the subject of Pharmacology, students should have acquired knowledge of Physiology and Biochemistry, which are necessary to understand the actions of drugs and their therapeutic effects.

COMPETENCES / LEARNING OUTCOMES

1205 - Degree in Human Nutrition and Dietetics

Capacidad para analizar problemas y resolverlos con espíritu crítico colaborando con otros profesionales sanitarios en el consejo al paciente medicalizado.

Capacidad para localizar y sintetizar la información y realizar una exposición oral con el empleo de las TIC.

Determine the influence of the nutritional status on the pharmacological response, drug-food interactions and their clinical significance.

Know the pharmacological action of the therapeutic groups and relate them to their effects, indications and adverse reactions.

Learn basic concepts of pharmacology (pharmacokinetic and pharmacodynamic aspects).

Saber realizar búsquedas bibliográficas en bases de datos de medicamentos comprendiendo la terminología científica.

DESCRIPTION OF CONTENTS

1. GENERAL PHARMACOLOGY

Basic Concepts in Pharmacology, general principles of Pharmacokinetics and several aspects of molecular pharmacology (mechanism of action of drugs). Drug interactions and types of adverse reactions.

UNIT 1 .-Introduction. Concepts. Development and evaluation of new drugs.
UNIT 2 .-Mechanisms of action of drugs. Drug-receptor interactions.
UNIT 3.- General principles of pharmacokinetics. LADME process. Drug absorption.
UNIT 4.- Distribution of drugs.
UNIT 5 .-Elimination of drugs. Metabolism.
UNIT 6 .-Excretion. Forms and routes of excretion.
UNIT 7 .-Pharmacokinetic parameters. Patterns of drug administration.
UNIT 8 .-Drug interactions and variations in drug response. Factors dependent on the drug and the patient.
UNIT 9 .-Adverse drug reactions. Pharmacovigilance.

2. SPECIAL PHARMACOLOGY

It addresses the pharmacological groups used in different diseases including: mechanism of action, pharmacological effects, pharmacokinetics, adverse reactions and therapeutic applications. Preferentially developing those drugs used in diseases requiring dietary intervention.

UNIT 10 .-Pharmacology of gastric, hepatobiliary and exocrine pancreatic secretion.
UNIT 11 .-Pharmacology of gastrointestinal motility and vomiting.
UNIT 12 .-Drugs affecting intestinal transit: laxatives and antidiarreics.
Treatment of inflammatory bowel disease.
UNIT 13.- Treatment of obesity. Appetite stimulant medications.
UNIT 14.- Antidiabetic drugs.
UNIT 15 .-Pharmacology of thyroid disorders and other hormonal therapies.
UNIT 16 .-Pharmacology of osteoporosis and bone metabolism disorders.
UNIT 17 .-Lipid-lowering drugs.
UNIT 18.-Antihypertensive drugs
UNIT 19.-Anticoagulants and other drugs used in blood disorders.
UNIT 20.-Antidepressants and anxiolytics.
UNIT 21 .-Psychostimulants and addictions.
UNIT 22.-Respiratory pharmacology.
UNIT 23.-Analgesicand antiinflammatory drugs.
UNIT 24.-Drugs used in the treatment of gout and hyperuricemia.
UNIT 25.-Anti-infective therapy. Antimicrobial drugs.

3. INTERACTIONS DRUGS - FOOD

Details of the influence of drugs on the process of nutrition, and the interference of food, diet or nutritional status on drug response. In certain circumstances, these interactions may even cause therapeutic failure or nutritional deficiencies.

UNIT 26 .- Influence of drugs on patient¿s nutrition.
UNIT 27 .- Influence of food and nutritional status in drug response.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Tutorials	2,00
Theory	35,00
Seminar	2,00
Computer classroom practice	3,00
Total hours	**42,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	2,00
Individual or group project	10,00
Independent study and work	36,00
Preparation of lessons	9,00
Preparation for assessment activities	11,00
Resolution of case studies	1,00
Total hours	**69,00**

TEACHING METHODOLOGY

Teaching Methodology

*** Theoretical Lessons.** - Students must acquire basic knowledge covered by the syllabus by attending lectures and personal study. In these lectures, the professor will give an overview of the topic under study with the support of audiovisual systems and active student participation. To facilitate personal study and preparation of the issues in depth, the proper literature and necessary support material will be indicated or provided to students through the Virtual Classroom.

*** Seminars**.- Seminars allow a more active involvement of students. In seminars, the students, gathered in groups of 4 members, will prepare, exhibit and discusswith his class mates a topic related to the content of Pharmacology. In these seminars students will exercise or acquire the capability to search, outline and summarize information and the ability of oral and written expression, promoting teamwork as well. Coordination of seminars will be performed by the Faculty.

In addition students could be offered to participate in complementary activities of varied type (cinema-forum, debates, press news,...) covering current issues related to the subject, or addressing any particular aspect of the syllabus of difficult comprehension, if required by the students.

*** Tutorials.-** The tutorials are collective and organized into small groups of students, according to the established timetable. In these sessions, the tutor will evaluate the learning process of the students in a

global way. The tutor may raise specific issues previously worked by students the students. Besides, the tutorials will serve to advise students on strategies to circumvent difficulties that might encounter.

*** Computer practical classes.-** They performed in a single session in the computer classroom. The attendance is compulsory. They are prepared to facilitate the student the sources of information relevant to their future profession and to acquire the capability to search in internet issues related with drugs and their interactions among themselves or with food constituents.

Sustainable Development Goals (SDG). In the diverse activities along the academic year, to say, theoretical, practical or tutorial ones, the emphasis will be placed on the concrete meaning that the knowledge and skills that pharmacology provides in relationship with the SDG. The same concept will apply for the proposals of topics for the coordinated seminars.

The SDG 2030, on which a Pharmacology course projects its influence, are nº 2 and, above all, nº 3, dedicated to the eradication of the poverty and to the protection of the health. Pharmacology in the context of the Human Nutrition and Dietetics Degree provides a medicinal vision of the nutritional field. This is to say, it explores how to intervene in the treatment of the diseases in a coordinated way with the human feeding. This is, perhaps, not extremely difficult in relationship of metabolic or hormonal disorders, but it is complicated in other situations.

Within the **Goal 2**, Pharmacology will emphasize the drug response of the elder patients, pregnant or lactating women, children and adolescents. Studying the response when it is modified due to malnutrition or dietary imbalance will be necessary.

Within the **Goal 3**, training on antibiotics and other anti-infective drugs -in the broadest sense- will have to be increased to meet the treatment of neglected or under-treated communicable diseases. Likewise, in this case without increasing time, much attention will be paid to the prevention and treatment of drug dependencies, including withdrawal syndromes, where appropriate. Finally, it will be about vaccines and, in this case, throughout the program, the so-called essential drugs, in the field of developing countries.

EVALUATION

The evaluation will take into consideration:

- Tutorials (5%). Different aspects will be taken into account, such as attendance, active and collaborative participation, and the delivery of a report. In case of not passing the subject, the note will be saved for the following course.

- Directed coordinated seminars (10%). The level of understanding of the contents will be assessed, as well as the skills for its presentation and discussion. It is mandatory to have completed a seminar in one of the subjects of the course. In case of not passing the subject in the course in which it was done, the grade will be saved for the following two courses.

- Computer practical classes (5%). Practices are mandatory. It will be valued for participation in the activities, resolution of questions raised in situ, and by means of a small individual report or in pairs that will be delivered at the end of the session. In case of not passing the subject in the course in which it was done, the grade will be saved for the following course.

- Theoretical exam (70%): It will consist of some questions to develop accompanied, where appropriate, by a test.

-Continuous assessment (5%): questionnaires in the Virtual Classroom to solve in class and programmed by blocks of matter.

- Attendance at face-to-face activities (5%): attendance at classmates' seminars, attendance and participation in class, attendance at other possible activities... Different aspects will be taken into account, such as active participation.

It is an essential requirement, to pass the subject, to have taken and passed the practical lessons and the theoretical exam.

The practices are mandatory to attend and, therefore, cannot be recovered, in accordance with the provisions of article 6.5 of the UV Evaluation and Qualification Regulations for Bachelor's and Master's degrees. If, for justified reasons, you cannot attend, you must notify us with sufficient notice. In this way, the person responsible for the subject will be able to assign the student a session in another group.

Evidence of copying or plagiarism in any of the assessable tasks will result in failure to pass the subject and in appropriate disciplinary action being taken. Please note that, in accordance with article 13. d) of the Statute of the University Student (RD 1791/2010, of 30 December), it is the duty of students to refrain from using or participating in dishonest means in assessment tests, assignments or university official documents.

In the event of fraudulent practices, the "**Action Protocol for fraudulent practices at the University of Valencia**" will be applied (ACGUV 123/2020):

https://www.uv.es/sgeneral/Protocols/C83sp.pdf

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- Ritter JM, Rang HP, Dale MM. Farmacología. 10ª ed., Elsevier, 2024.
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