

Course Unit	Pharmacology	Field of study	Biology and Biochemistry
Bachelor in	Dietetics and Nutrition	School	School of Health
Academic Year	2023/2024	Year of study	2
Type	Semestral	Semester	1
Level	1-2	ECTS credits	4.0
Code	8149-807-2103-00-23		
Workload (hours)	108	Contact hours	T - TP 52,5 PL - TC - S - E - OT 7,5 O -

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Maria Jose Ferreira Gomes Genesio

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Define and understand concepts on the study of medicines.
2. Understand the effects of the medicines in the organism and vice versa.
3. Identify factors that influence the answer of the organism to a certain drug.
4. Understand the importance of the dosage in a medical therapeutics.

Prerequisites

Before the course unit the learner is expected to be able to:
Not applied.

Course contents

Definition of pharmacology; historical evolution. Basic concepts of pharmacology. Drug discovery and development. Pharmacodynamic. Variability of answer to the medicine. Medicamental interactions. Toxicity of the medicine. Therapeutic drug groups. Natural diet products.

Course contents (extended version)

1. Definition of pharmacology; historical evolution
2. Basic concepts of pharmacology: medicine; pharmacokinetic; pharmacodynamic; biological barriers
3. Basic concepts of pharmacology: pro-medicine; pharmaceutical formulation, dosage
4. Basic concepts of pharmacology: bioavailability, volume of distribution, time of semi-life,
5. Pharmacokinetic: routes of administration of medicines and special characteristics of them
6. Absorption: mechanism and intervenient factors in transport through biological barriers
7. Distribution of subst. throughout the fluids and tissues of the body and the plasmatic proteins
8. Metabolism: biotransformation of medicines; pro-medicines and precursors
9. Elimination: routes of elimination of the organism; importance of pH
10. Pharmacodynamic: mechanism of action of the medicine, agonism, antagonism, sinergism
11. Variability of answer to the medicine: intrinsic factors of variation (race, age, sex)
12. Tolerance and intolerance to medicines. Iatrogenic and idiosyncrasy. Allergies.
13. Drug interactions, mechanism of interaction. Drug incompatibilities
14. Adverse reactions. Toxicity of the medicines: hepatotoxicity, genetic mutation, embryonic toxicity
15. Discovery and development of drugs. Preclinical testing, clinical and pharmacovigilance.
16. Herbal and natural products versus drug interactions
17. Therapeutic drug groups

Recommended reading

1. Clayton, B. , Yvone, S. (2002). Fundamentos de Farmacologia. (12ª ed.). Loures: Lusociência
2. Goodman e Guilman, Alfred. (2006). As bases farmacológicas da terapêutica. (11ª ed.). Brasil: Mac Graw hill.
3. Guimarães, S. , Moura, D. , Silva, Patricio (2006). Terapêutica medicamentosa e suas bases farmacológicas. (6ª ed.). Porto Editora
4. Rang, H. , Dale, M. , Ritter, J. , Moore, P. (2004). Farmacologia. (5ª ed.). Rio de Janeiro: Elsevier

Teaching and learning methods

Lectures (45 hours): lectures and reflective with support of media available; mentoring guidance lessons (15 hours): guidance for conducting group work (literature) related to the contents of the course.

Assessment methods

1. Two written tests (50% each) - (Regular, Student Worker) (Final)
2. Final examination (100%) - (Regular, Student Worker) (Supplementary, Special)

Language of instruction

Portuguese

Electronic validation

Maria Jose Ferreira Gomes Genesio	Maria Cristina Martins Teixeira	Ana Maria Nunes Português Galvão	Adília Maria Pires da Silva Fernandes
17-11-2023	06-12-2023	06-12-2023	07-12-2023