

Course Unit	Pharmaceutical technology I		Field of study	Pharmacy	
Bachelor in	Pharmacy		School	School of Health	
Academic Year	2022/2023	Year of study	2	Level	1-2
Type	Semestral	Semester	1	ECTS credits	5.0
Code	9549-644-2106-00-22				
Workload (hours)	135	Contact hours	T -	TP 30	PL 30
			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) Luis Migue Fernandes Nascimento, Xavier Taboada Costa

Learning outcomes and competences

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

1. To know the galenic preparations produced in pharmacy and the technologies for the production medicine to normalize procedures
2. To understand the processing of natural and synthetic products in medicines, making them likely to be administered to living beings, for prophylaxis, treatment or diagnosis of several diseases
3. To understand how to prepare, to package, to preserve and to dispense medicines, dosing more precisely to facilitate its administration and ensure an therapeutical effectiveness
4. To understand the formulation to develop methods and techniques in galenic operations.
5. To plan and apply safety and quality norms leading to good laboratory practice.

Prerequisites

Not applicable

Course contents

Theoretical-Practical Learning: Galenic forms obtained by Mechanical Division (Species, Powder), Galenic forms obtained by Mechanics Dispersion (Emulsions, Suspensions), Galenic forms obtained by Molecular Dispersion (Solutions), Galenic forms obtained by Dissolution and Evaporation (Extracts). Practical education: Preparation of various galenic forms in the laboratory.

Course contents (extended version)

1. Theoretical-Practical Learning:
2. Galenic forms obtained by Mechanical Division
 - Species
 - Powder (Granulated, Compressed, Drageias, Tablets, Capsules, Piluls)
3. Galenic forms obtained by Mechanics Dispersion
 - Emulsions
 - Suspensions
4. Galenic forms obtained by Molecular Dispersion
 - Solutions: Hidróleos, Alcoóleos, Sacaróleos, Gliceróleos, Eteróleos, Enóleos, Acetóleos, Oleóleos
5. Galenic forms obtained by Dissolution and Evaporation
 - Extracts
6. Practical Learning:
 - Preparation of Powder composites
 - Preparation of Medicinal papers
 - Preparation of Granulated for tablets
 - Preparation of Tablets
 - Preparation of Suspensions
 - Preparation of Emulsions
 - Preparation of Common Syrup
 - Preparation of Alcoholic Watery solutions
 - Preparation Sheets of compounded drugs and determining the selling price to the public.

Recommended reading

1. Morgado, R. ; Alves, C. ; Prista, L. (2011). Tecnologia Farmacêutica. 8ª ed. Vol. I. Fundação Calouste Gulbenkian, Lisboa,
2. Goodman & Gilman (2003). As Bases Farmacológicas da Terapêutica. 10ª ed. Mc Graw Hill, México.
3. Lachman, L. ; Lieberman H. ; Kanig, J. (2001). Teoria e Prática na Indústria Farmacêutica. I e II Vol. Fundação Calouste Gulbenkian, Lisboa, .
4. Farmacopeia Portuguesa IX (2008). Lisboa, Instituto Nacional da Farmácia e do Medicamento - Ministério da Saúde.
5. Gennaro, A R. (2004). Remington's: A ciência e a prática da Farmácia. 20ª Edição, Editora Guanabara Koogan.

Teaching and learning methods

Theoretical-Practical Learning: Expositive method; Practical Learning: Demonstration of practical activities.

Assessment methods

1. Alternative 1 - (Regular, Student Worker) (Final)
 - Final Written Exam - 50%
 - Reports and Guides - 20%
 - Final Written Exam - 30%
2. Alternative 3 - (Regular, Student Worker) (Supplementary, Special)
 - Final Written Exam - 50%
 - Laboratory Work - 50%
3. Alternative 4 - (Student Worker) (Final)
 - Final Written Exam - 50%
 - Laboratory Work - 50%

Language of instruction

1. Portuguese

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2. Portuguese, with additional English support for foreign students.

Electronic validation

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28-10-2022	14-11-2022	03-01-2023	07-01-2023