

Course Unit	Laboratorial Techniques in Pharmacy	Field of study	Pharmacy
Bachelor in	Pharmacy	School	School of Health
Academic Year	2022/2023	Year of study	1
Type	Semestral	Semester	1
Workload (hours)	135	Contact hours	T - TP 30 PL 30 TC - S - E - OT 7,5 O -
Level	1-1	ECTS credits	5.0
Code	9549-644-1106-00-22		

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 Angela Goncalves Rocha de Aragao, Tania Cristina Sao Pedro Pires

Learning outcomes and competences

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

1. Basic knowledge of safety rules in the laboratory, cleaning and disinfection.
2. Identification of methods and laboratory techniques in pharmacy
3. Application of methods and laboratory techniques in pharmacy.

Prerequisites

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

Course contents

Theoretical-Practical learning: 1. Definition of concepts; 2. Safety, cleaning and disinfection rules in laboratory; 3. General Purpose Pharmaceutical Operations; 4. Pharmaceutical operations properly so called; 5. Sterilization Practical Learning: Will be practised in laboratory studied techniques.

Course contents (extended version)

1. Definition of concepts
2. Safety, cleaning and disinfection rules in laboratory
3. General Purpose Pharmaceutical Operations
 - Weighing
 - Liquid Volume Measurement
 - Drug Doses measurement
4. Pharmaceutical operations properly so called
 - Operations mechanical separation of solids.
 - Mechanical operations of separating solids from liquids or immiscible liquids.
 - Mechanical operations division.
 - Physical operations requiring the intervention of cold or heat
 - Physical operations requiring the intervention of a liquid
5. Sterilization

Recommended reading

1. Associação Nacional de Farmácias. (2009) Formulário Galénico Português. Vol. 1 e 2.
2. MORGADO, R. ; ALVES, C. ; (2011) ; PRISTA, L. – Tecnologia Farmacêutica. 5ª ed. Vol. II. Fundação Calouste Gulbenkian, Lisboa
3. Infarmed. (2008). Farmacopeia Portuguesa IX. Lisboa.
4. GENNARO AR. ; (2004) Remington's: A Ciência e a Prática da Farmácia. 20ª Ed. Editora Guanabara Koogan.
5. Diário da República, 1ª série – B, número 19, de 23 de Janeiro, 1992 – Guia para o bom fabrico de medicamentos.

Teaching and learning methods

Theoretical-Practical learning: Slide show and video projection Practical learning: Demonstration of the techniques in the laboratory.

Assessment methods

1. Alternative 1 - (Regular, Student Worker) (Final, Supplementary, Special)
 - Final Written Exam - 60% (Minimum grade of 8. 5 values (in the respective examination period) according to ESSa's Ped. Regul.)
 - Reports and Guides - 20% (Minimum grade of 8. 5 values in the Practical component (obtained during the semester) - Pedag. Reg.)
 - Laboratory Work - 20% (Minimum grade of 8. 5 values in the Practical component (obtained at the end of the semester))
2. Alternative 2 - (Regular) (Supplementary, Special)
 - Final Written Exam - 60% (Minimum grade of 8. 5 values (in the respective examination period), according to ESSa's Ped. Regul.)
 - Laboratory Work - 40% (Minimum grade of 8. 5 values in the Practical comp. (obtained at the end of the sem. or examination))
3. Alternative 3 - (Student Worker) (Final, Supplementary, Special)
 - Final Written Exam - 60% (Minimum grade of 8. 5 values (in the respective examination period), according to ESSa's Ped. Regul.)
 - Laboratory Work - 40% (Minimum grade of 8. 5 values in the Practical comp. (obtained at the end of the sem. or examination))
4. Alternative 4 - Large class - (Regular, Student Worker) (Final, Supplementary, Special)
 - Final Written Exam - 60% (Minimum grade of 8. 5 values (in the respective examination period) according to ESSa's Ped. Regul.)
 - Reports and Guides - 40% (Minimum grade of 8. 5 values in the Practical component (obtained during the semester) - Pedag. Reg.)

Language of instruction

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

Electronic validation

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08-11-2022	11-11-2022	28-02-2023	04-03-2023