School of Pharmacy / School of Pharmacy (English)

2024 - 2025 Academic Year

PHARMACEUTICAL TECHNOLOGY LAB. II

Syllabus

Course Description					
Name	**Code**	**Semester**	**T+A Hour**	**Credit**	**ECTS**
PHARMACEUTICAL TECHNOLOGY LAB. II	PHA3214158	Spring Semester	0+3	1,5	3

Prerequisites Courses	
Recommended Elective Courses	
Language of Instruction	English
Course Level	First Cycle (Bachelor's Degree)
Course Type	Required
Course Coordinator	Prof.Dr. Fatma Julide AKBUĞA
Name of Lecturer(s)	Prof.Dr. Fatma Julide AKBUĞA
Assistant(s)	
Aim	To be performed the design of semi-solid dosage forms (ointment, path, suppository, gel etc.) and two-phase systems formulations, preparations and controls.
Course Content	This course contains; Demonstration,Suspensions and their preparations,Quality control in suspensions, determination of distribution and sedimentation volume, particle size distribution in suspensions,Emulsion preparation and HLB values calculation,Determination of emulsion types,Liniments,Ointments (the preparation of simple and hydrophilic ointment),Ointment with active ingredients and gel preparations,Path preparations,Cold cream, stearate cream,Suppository preparations,Dissolubility test in suppositories,Ovule preparations,Ovule preparations.

Course Learning Outcomes	**Teaching Methods**	**Assessment Methods**
At the end of this course the students;		
1. will be planned two-phase systems	10, 17, 9	A
1.1. prepare the suspension formulations.	10, 12, 17, 19, 9	A, D
1.2. perform the determination of distribution and sedimentation volume, particle size distribution in suspensions.	10, 12, 17, 19, 9	A, D
1.3. prepare the emulsion formulations.	10, 12, 17, 19, 9	A, D
1.4. calculate the determination of viscosity and HLB values.	10, 12, 17, 19	A
2. will be prepared semi-solid system formulations.	10, 12, 17, 19, 9	A, D
2.1. plan semi-solid formulations including ointment, path, gel, cold cream, stearate cream.	10, 12, 17, 19, 9	A, D
2.2. define the excipients using in semi-solid formulations.	10, 12, 17, 19, 9	A, D
2.3. prepare suppository and ovule.	10, 12, 17, 19, 9	A, D
2.4. evaluate the base ingredients using in preparation of suppository and ovule formulations.	10, 12, 17, 19, 9	A

Teaching Methods	10: Discussion Method, 12: Problem Solving Method, 17: Experimental Technique, 19: Brainstorming Technique, 9: Lecture Method
Assessment Methods	A: Traditional Written Exam, D: Oral Exam

Lecture Schedule

Sequence	**Topics**	**Preliminary Preparation**
1	Demonstration	1,2,3,4,5,6,7,8
2	Suspensions and their preparations	1,2,3,4,5,6,7,8
3	Quality control in suspensions, determination of distribution and sedimentation volume, particle size distribution in suspensions	1,2,3,4,5,6,7,8
4	Emulsion preparation and HLB values calculation	1,2,3,4,5,6,7,8
5	Determination of emulsion types	1,2,3,4,5,6,7,8
6	Liniments	1,2,3,4,5,6,7,8
7	Ointments (the preparation of simple and hydrophilic ointment)	1,2,3,4,5,6,7,8
8	Ointment with active ingredients and gel preparations	1,2,3,4,5,6,7,8
9	Path preparations	1,2,3,4,5,6,7,8
10	Cold cream, stearate cream	1,2,3,4,5,6,7,8
11	Suppository preparations	1,2,3,4,5,6,7,8
12	Dissolubility test in suppositories	1,2,3,4,5,6,7,8
13	Ovule preparations	1,2,3,4,5,6,7,8
14	Ovule preparations	1,2,3,4,5,6,7,8

Evaluation Methods	**Weight(%)**
Midterm Exam	60
General Exam	40

Resources

1-Lecture notes, Powerpoint presentations, Relevant web pages will be given to students.2) Alpmen G, Altınkurt T, Bergişadi N, Topaloğlu Y, Tunçel T, Araman A, Yener G, Özsoy Y,'Farmasötik Teknoloji ve Kozmetoloji Laboratuvar Kitabı' AB Ofset, İstanbul, 2000.Bozkır A,

3) Karataş A, Hasçiçek C, Canefe K, Kılıçarslan M, Tarımcı N, Yüksel N, Gönül N,Özdemir N, Baykara T, Kılınç-Şen T, Çomoğlu T, 'Farmasötik Teknoloji Deneysel Uygulamalar Kitabı' Ankara Üniversitesi Eczacılık Fakültesi Yayınları.

4) Türk Farmakopesi (TF 2017)

5) Tıbbi ve Kozmetik Formüller (Prof. Dr. Kasım Cemal Güven) 2020

6) Martindale-the Extra Pharmacopoeia

7) USP United States Pharmacopoeia 32

8) European Pharmacopoeia 10