

School of Pharmacy / School of Pharmacy (English)

2024 - 2025 Academic Year

PHARMACEUTICAL TECHNOLOGY LAB.I

Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
PHARMACEUTICAL TECHNOLOGY LAB.I	PHA3114151	Fall Semester	0+3	1,5	3
Prerequisites Courses	ANALİTİK KİMYA II; ANALİTİK KİMYA UYGULAMA II				
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 prepare pharmaceutical dosage forms in the solution forms with evaluating basic elements on drugs preparation.				
Course Content	This course contains; The rules of laboratory study that must be followed, prescription scales, the measurement of liquid, drop weight and drip technique.,Filters, the use of filters, the use of mortars, prescription information.,Water purification methods, softening of hard waters, water deionization, determination of ion exchange capacity on ion exchange resins.,Concentration expressions, dilution, the measurement of liquid density, baume degree, pH calculations.,Preparation of tampon solutions, calculation of tampon capacity and ionic strength,Preparation of the solution type-pharmaceutical dosage forms., Preparation of the solution type-pharmaceutical dosage forms., Preparation of the solution type-pharmaceutical dosage forms.,Preparation of the solution type-pharmaceutical dosage forms.,Preparation of the solution type-pharmaceutical dosage forms.,Preparation of the solution type-pharmaceutical dosage forms.,Preparation of the solution type-pharmaceutical dosage forms.,Preparation of the solution type-pharmaceutical dosage forms.,Preparation of the solution type-pharmaceutical dosage forms.,Preparation of the solution type-pharmaceutical dosage forms.,Preparation of the solution type-pharmaceutical dosage forms..				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
1. will be able to define basic equipments on drug preparation.			10, 14, 16, 17, 19, 5, 9	E	
1.1. arrange weighing operation of all the active ingredient.			12, 17, 9	A	
1.2. calculate maximal dosage of drug substances on prescription.			10, 9	A	
1.3. categorize active ingredients according to prescription types.			10, 9	D	
2. will be able to assess water purification methods.			9	D	
2.1. define water softening process.			10, 19, 9	A	
2.2. compare water purification methods.			17, 9	A	
3. will be able to arrange the measurement of liquid density, pH calculations, preparation process of tampon solutions			9	D	
3.1. define concentration expressions.			14, 17, 5, 9	D	
3.2. use the measurement devices of liquid density.			14, 17, 5, 9	A	
3.3. calculate the capacity of tampon solutions.			14, 17, 9	E	
3.4. assess ionic strength of solutions.			14, 17, 9	A	
Teaching Methods	10: Discussion Method, 12: Problem Solving Method, 14: Self Study Method, 16: Question - Answer Technique, 17: Experimental Technique, 19: Brainstorming Technique, 5: Cooperative Learning, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam, D: Oral Exam, E: Homework				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	The rules of laboratory study that must be followed, prescription scales, the measurement of liquid, drop weight and drip technique.	1,2,3,4,5,6,7,8			
2	Filters, the use of filters, the use of mortars, prescription information.	1,2,3,4,5,6,7,8			
3	Water purification methods, softening of hard waters, water deionization, determination of ion exchange capacity on ion exchange resins.	1,2,3,4,5,6,7,8			
4	Concentration expressions, dilution, the measurement of liquid density, baume degree, pH calculations.	1,2,3,4,5,6,7,8			
5	Preparation of tampon solutions, calculation of tampon capacity and ionic strength	1,2,3,4,5,6,7,8			
6	Preparation of the solution type-pharmaceutical dosage forms.	1,2,3,4,5,6,7,8			
7	Preparation of the solution type-pharmaceutical dosage forms.	1,2,3,4,5,6,7,8			
8	Preparation of the solution type-pharmaceutical dosage forms.	1,2,3,4,5,6,7,8			
9	Preparation of the solution type-pharmaceutical dosage forms.	1,2,3,4,5,6,7,8			
10	Preparation of the solution type-pharmaceutical dosage forms.	1,2,3,4,5,6,7,8			
11	Preparation of the solution type-pharmaceutical dosage forms.	1,2,3,4,5,6,7,8			
12	Preparation of the solution type-pharmaceutical dosage forms.	1,2,3,4,5,6,7,8			
13	Preparation of the solution type-pharmaceutical dosage forms.	1,2,3,4,5,6,7,8			
14	Preparation of the solution type-pharmaceutical dosage forms.	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, Topalođlu Y, Tunçel T, Araman A, Yener G, Özsoy Y, 'Farmasötik Teknoloji ve Kozmetoloji Laboratuvar Kitabı' AB Ofset, İstanbul, 2000.Bozkır A,
- 3) Karataş A, Hasçıçek C, Canefe K, Kılıçarslan M, Tarımcı N, Yüksel N, Gönül N,Özdemir N, Baykara T, Kılınç-Şen T, Çomođlu 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