

**School of Pharmacy / School of Pharmacy (English)**

**2024 - 2025 Academic Year**

**PHARMACEUTICAL TECHNOLOGY I**

**Syllabus**

<b>Course Description</b>					
<b>Name</b>	<b>Code</b>	<b>Semester</b>	<b>T+A Hour</b>	<b>Credit</b>	<b>ECTS</b>
PHARMACEUTICAL TECHNOLOGY I	PHA3114149	Fall Semester	3+0	3	5
<b>Prerequisites Courses</b>	ANALİTİK KİMYA II; ANALİTİK KİMYA UYGULAMA II				
<b>Recommended Elective Courses</b>					
<b>Language of Instruction</b>	English				
<b>Course Level</b>	First Cycle (Bachelor's Degree)				
<b>Course Type</b>	Required				
<b>Course Coordinator</b>	Prof.Dr. Fatma Julide AKBUĞA				
<b>Name of Lecturer(s)</b>	Prof.Dr. Fatma Julide AKBUĞA, Assist.Prof. Burcu ÜNER				
<b>Assistant(s)</b>					
<b>Aim</b>	To inform the students about the basic knowledge of pharmaceutical technology, pharmaceutical water, solutions and dissolution.				
<b>Course Content</b>	This course contains; The historical development of the drug, international pharmaceutical organizations, Pharmaceutical calculations (prescription and dose calculation), The basic process on pharmaceutical manufacturing, Colligative properties, Extraction and the pharmaceutical preparations prepared by extraction, Drug delivery systems and the routes of administration, Drug delivery systems and the routes of administration, Preformulation, pharmaceutical excipients and the stability of dosage forms, Pharmaceutical water, Pharmaceutical water, Solutions, Solutions, Solubility and the factors affecting solubility.				
<b>Course Learning Outcomes</b>			<b>Teaching Methods</b>	<b>Assessment Methods</b>	
1. will be assessed the basic concept on pharmaceutical technology.			16, 9	A	
1.1. Will be used pharmaceutical knowledge resources (pharmacopeia, codex ect.)			16, 9	A	
1.2. Use prescription formulations and dose calculations.			16, 9	A	
1.3. analyse the process of the pharmaceutical calculation.			16, 9	A	
2. Will be distinguished the basic process of pharmaceutical technology.			16, 9	A	
2.1. tell the elaboration of milling, mixing, sieving and filtering process.			16, 9	A	
2.3. Recognize the devices used in the basic process of pharmaceutical technology.			16, 9	A	
3. will be prepared the pharmaceutical preparations prepared by extraction.			16, 9	A	
3.1. define the distillation concept and the methods of distillation.			16, 9	A	
3.2. categorize the extraction types.			16, 9	A	
3.3. prepare a variety of the extraction preparations.			16, 9	A	
4. will be defined preformulation, pharmaceutical excipients and the stability of dosage forms.			16, 9	A	
4.1. interpret the parameter of the preformulation studies.			16, 9	A	
4.2. categorize the pharmaceutical excipients.			16, 9	A	
4.3. Evaluate the properties of the pharmaceutical excipients.			16, 9	A	
4.4. assess the stability and safety of the pharmaceutical excipients.			16, 9	A	
5. will be defined pharmaceutical water and the methods of the water purification.			16, 9	A	
5.1. debate the methods of the water purification.			16, 9	A	
5.2. interpret the controls on pharmaceutical water.			16, 9	A	
6. will be designed the solution-type dosage forms.			16, 9	A	
6.1. list the formulation ingredients of the solutions.			16, 9	A	
6.2. debate the quality controls of the solution-type dosage forms.			16, 9	A	
6.3. design the methods of the solution preparation.			16, 9	A	
6.4. define the concept of solubility, dissolution rate.			16, 9	A	
<b>Teaching Methods</b>	16: Question - Answer Technique, 9: Lecture Method				
<b>Assessment Methods</b>	A: Traditional Written Exam				
<b>Lecture Schedule</b>					
<b>Sequence</b>	<b>Topics</b>	<b>Preliminary Preparation</b>			
1	The historical development of the drug, international pharmaceutical organizations	1,2,3			
2	Pharmaceutical calculations (prescription and dose calculation)	1,2,3			
3	The basic process on pharmaceutical manufacturing	1,2,3			
4	The basic process on pharmaceutical manufacturing	1,2,3			
5	Colligative properties	1,2,3			
6	Extraction and the pharmaceutical preparations prepared by extraction	1,2,3			
7	Drug delivery systems and the routes of administration	1,2,3			
8	Drug delivery systems and the routes of administration	1,2,3			
9	Preformulation, pharmaceutical excipients and the stability of dosage forms	1,2,3			
10	Pharmaceutical water	1,2,3			
11	Pharmaceutical water	1,2,3			
12	Solutions	1,2,3			
13	Solutions	1,2,3			
14	Solubility and the factors affecting solubility	1,2,3			
<b>Evaluation Methods</b>		<b>Weight(%)</b>			
Midterm Exam		40			
General Exam		60			

**Resources**

1-Lecture notes, Powerpoint presentations, Relevant web pages will be given to students.2-Acartürk F, Ağabeyođlu İ, Çelebi D, Deđim T, Deđim Z, Dođanay T, Taka S, Tırnaksız F. Modern Farmasötik Teknoloji. Türk Eczacılar Birliđi Yayını. 2.baskı. Ankara.2008.  
3-Zırh Gürsoy A (ed.). Farmasötik Teknoloji –Temel Konular ve Dozaj Şekilleri-. Kontrollü Salım Sistemleri Derneđi Yayını. 2.baskı. İstanbul. 2012.