

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
PHARMACEUTICAL CHEMISTRY I	PHA3114143	Fall Semester	3+0	3	5
<b>Prerequisites Courses</b>	ORGANİK KİMYA 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. Mine YARIM YÜKSEL				
<b>Name of Lecturer(s)</b>	Prof.Dr. Mine YARIM YÜKSEL				
<b>Assistant(s)</b>					
<b>Aim</b>	To evaluate the history of drugs, physicochemical and chemical factors effecting the activities of the drugs, drug metabolism, new drug research and development and their applications.				
<b>Course Content</b>	This course contains; Introduction to pharmaceutical chemistry, the history of drugs, drug sources,nomenclature and classification ,Physicochemical properties: Solubility of drugs,The determination of solubility,Physicochemical properties: İonization of drugs,The determination of ionization,Chemical properties: Chemical bondings in drug and receptor interactions,Chemical properties: Drug and receptor interactions,Steric factors,Drug metabolism: Phase I reactions ,Drug metabolism: Phase II reactions,Bioisosterism,Structure-activity relationships ,Yeni ilaç geliştirilmesi ,Ön ilaç: Tasarlanması ve sentezi .				
<b>Course Learning Outcomes</b>			<b>Teaching Methods</b>	<b>Assessment Methods</b>	
1. will be able to explain the definition of pharmaceutical chemistry, the history and general properties of drugs. 1.1. explain the sources of drugs. 1.2. illustrate the nomenclature of the drugs. 1.3. interpret the classification of drugs. 2. will be able to relate the physicochemical properties effecting on the drug activities.2.1. interpret the relationships between the activities and solubilities of the drugs. 2.2. discuss the relationships between the activities and ionizations of the drugs. 2.3. formulate identifying and calculating the solubility and ionization properties of the drug molecules.3. will be able to evaluate the relationships between the activities and chemical structures of the drugs. 3.1. evaluate the drug-receptor relationships. 3.2. interpret the role of chemical bonding in drug-receptor relationships. 3.3. discuss the steric effects on the drug activities. 4. will be able to explain the drug metabolism. 4.1. interpret the Faz I drug metabolism reactions.4.2. interpret the Faz II drug metabolism reactions.4.3. demonstrate the metabolism products of drugs. 5. will be able to design the structure-activities relationships. 5.1. interpret the parameters using in quantitative structure-activities relationships. 5.3. interpret the electronic and steric parameters. 6. will be able to formulate the studies on development of the new drug molecules. 6.1. illustrate the using the bioisosteric groups in drug development. 6.2. suggest the designing and synthesis of prodrugs.6.3. report the phase of new drug development from biological system.			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>					
Sequence	Topics	Preliminary Preparation			
1	Introduction to pharmaceutical chemistry, the history of drugs, drug sources,nomenclature and classification	Reading the references			
2	Physicochemical properties: Solubility of drugs	Reading the references			
3	The determination of solubility	Reading the references			
4	Physicochemical properties: İonization of drugs	Reading the references			
5	The determination of ionization	Reading the references			
6	Chemical properties: Chemical bondings in drug and receptor interactions	Reading the references			
7	Chemical properties: Drug and receptor interactions	Reading the references			
8	Steric factors	Reading the references			
9	Drug metabolism: Phase I reactions	Reading the references			
10	Drug metabolism: Phase II reactions	Reading the references			
11	Bioisosterism	Reading the references			
12	Structure-activity relationships	Reading the references			
13	Yeni ilaç geliştirilmesi	Reading the references			
14	Ön ilaç: Tasarlanması ve sentezi	Reading the references			
<b>Evaluation Methods</b>		<b>Weight(%)</b>			
Midterm Exam		40			
General Exam		60			
<b>Resources</b>					