

School of Pharmacy / School of Pharmacy (English)

2024 - 2025 Academic Year

ORGANIC CHEMISTRY I

Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
ORGANIC CHEMISTRY I	PHA1212091	Spring Semester	2+0	2	4
Prerequisites Courses	GENEL KİMYA				
Recommended Elective Courses					
Language of Instruction	English				
Course Level	First Cycle (Bachelor's Degree)				
Course Type	Required				
Course Coordinator	Prof.Dr. Mine YARIM YÜKSEL				
Name of Lecturer(s)	Lect.Dr. İsmail FİDAN				
Assistant(s)					
Aim	To evaluate the basic principles of organic chemistry, properties of functional groups and basic reactions.				
Course Content	This course contains; Properties of carbon, atomic theories, bond theories, carbon-carbon bonds, formation and properties of carbon-heteroatom bonds, Reactivity and mechanism, electrophiles and nucleophiles and their properties, acidity and basicity, Nomenclature of organic compounds, nomenclature rules, Alkanes, cycloalkanes and constitutional isomerism, Alkenes, alkynes, double bond isomerism, General properties of alkyl halides, alcohols and ethers and sulfur compounds, Chirality and stereoisomers, Aromaticity and properties of aromatic reactions, General properties of carbonyl groups, aldehydes and ketones, General properties of carbonyl group, aldehydes and ketones, General properties of carboxylic acids and their derivatives, General properties of amines, Biological compounds and polymers.				
Course Learning Outcomes		Teaching Methods	Assessment Methods		
At the end of this course student;		12, 16, 19, 9	A		
3.1. distinguish alkanes, alkenes and alkynes.		12, 16, 19, 9	A		
3.2. example alkyl halides, alcohols, ethers, amines and related compounds		12, 16, 19, 9	A		
3.3. Distinguish carbonyl-containing compounds		12, 16, 19, 9	A		
1. define the properties of the bonds that formed by carbon.		12, 16, 19, 9	A		
1.1. explain organic reactivity and mechanisms.		12, 16, 19, 9	A, G		
1.2. example organic nomenclature rules.		12, 16, 19, 9	A, G		
1.3. distinguish organic reaction types.		12, 16, 19, 9	A		
2. classify isomerism in organic structures.		12, 16, 19, 9	A		
2.1. explain constitutional isomerism.		12, 16, 19, 9	A		
2.2. explain functional group isomerism.		12, 16, 19, 9	A		
2.3 define geometric isomerism		12, 16, 19, 9	A		
3. classify organic compounds		12, 16, 19, 9	A, G		
3.4. Give example to aromatic compounds		12, 16, 19, 9	A		
Teaching Methods	12: Problem Solving Method, 16: Question - Answer Technique, 19: Brainstorming Technique, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam, G: Quiz				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	Properties of carbon, atomic theories, bond theories, carbon-carbon bonds, formation and properties of carbon-heteroatom bonds	Reading the reference book			
2	Reactivity and mechanism, electrophiles and nucleophiles and their properties, acidity and basicity	Reading the reference book			
3	Nomenclature of organic compounds, nomenclature rules	Reading the reference book			
4	Alkanes, cycloalkanes and constitutional isomerism	Reading the reference book			
5	Alkenes, alkynes, double bond isomerism	Reading the reference book			
6	General properties of alkyl halides, alcohols and ethers and sulfur compounds	Reading the reference book			
7	Chirality and stereoisomers	Reading the reference book			
8	Aromaticity and properties of aromatic reactions	Reading the reference book			
9	General properties of carbonyl groups, aldehydes and ketones	Reading the reference book			
10	General properties of carbonyl group, aldehydes and ketones	Reading the reference book			
11	General properties of carboxylic acids and their derivatives	Reading the reference book			
12	General properties of carboxylic acids and their derivatives	Reading the reference book			
13	General properties of amines	Reading the reference book			
14	Biological compounds and polymers	Reading the reference book			
Evaluation Methods		Weight(%)			
Midterm Exam		40			
General Exam		60			

Resources

Organic Chemistry Lecture notes will be given to students. Organic Chemistry, John McMurry, 8th edition (2011), Brooks/Cole Cengage Learning.