

COURSE DESCRIPTIONS

Faculty	Pharmacy				
Department	Pharmacy	NQF level	7		
Course Title	Organic chemistry	Code	187114	Prerequisite	
Credit Hours	3	Theory	√	Practical	
Course Leader	Abdullah Ghawanmeh	email	A.Ghawanmeh@jadara.edu.jo		
Lecturers	Abdullah Ghawanmeh Mamon Okour	emails	A.Ghawanmeh@jadara.edu.jo		
Lecture time	10:00 – 11:30	Classroom	D302	Attendance	Fulltime
Semester	Second_2025/2026	Production	2017	Updated	2024
Type of Teaching	✓ Blended				
Short Description					
<p>This course introduces the basics of organic chemistry in terms of structure and reactivity. A functional group approach is applied by studying the structure, nomenclature, classification, physical properties, synthesis, and reactions of one functional group at a time. Functional groups covered include the hydrocarbons (alkanes, alkenes, and alkynes), alkyl halides, alcohols, ethers, aldehyde, ketones and carboxylic acid.</p>					
Course Objectives					
<p>1- Examination of the structure of an organic compound in terms of functional groups, physical properties like solubility and boiling point, nomenclature, and chemical reactivity.</p> <p>And to achieve this goal:</p> <ul style="list-style-type: none"> * Students should be able to identify the functional groups present in an organic compound. * Students should gain the ability to give the IUPAC name of an organic compound and convert an IUPAC name into a structure. * Students should understand how to interpret the physical properties and chemical reactivities of a compound from its structure. 					
<p>2- Comprehension of the concept of isomerism.</p> <p>And to achieve this goal:</p> <ul style="list-style-type: none"> * Students should be able to determine types of isomerism. * Students should gain the ability to differentiate between conformational isomers, constitutional isomers, and stereoisomers. * Students should be familiar with stereochemical differences 					
<p>3- Understand the major types of reactions in organic chemistry</p> <p>And to achieve this goal:</p> <ul style="list-style-type: none"> * Students should gain the ability to differentiate between chemical reactions. * Students should be able to determine reaction mechanisms. * Students should be able to describe the major type of reaction of each functional group in organic chemistry. 					

Learning Outcomes	
A. Knowledge - Theoretical Understanding	
a1. Classify organic compounds according to functional groups. a2. Recognize the chemistry of organic compounds (aromatic, heteroaromatics, carboxylic acid derivatives, amides, esters, anhydride, amines, ... etc) a3. Give examples on the reactions and synthesis of some classes	
B. Knowledge - Practical Application	
a4. Draw organic compound using special software, chemdraw, marvin, chemskitch, DS visualize	
C. Skills – Generic Problem Solving and Analytical Skills	
b1. Perform a seminar, to discuss problems with others, to communicate with his colleagues and analyze different subjects	
D. Skills – Communication, ICT, and Numeracy	
b2. Demonstrate the ability to communicate information and arguments effectively using written and oral skills to Apply of organic chemistry knowledge in pharmaceutical preparation. b3. Recognize the chemistry of organic compounds (aromatic, heteroaromatics, carboxylic acid derivatives, amides, esters, anhydride, amines, ... etc)	
E. Competence: Autonomy, Responsibility, and Context	
Teaching and Learning Methods	
<input checked="" type="checkbox"/> Face to Face Lectures <input type="checkbox"/> Brain Storming <input type="checkbox"/> Synchronous remote <input checked="" type="checkbox"/> Asynchronous remote <input checked="" type="checkbox"/> Using Video <input checked="" type="checkbox"/> Discussions <input type="checkbox"/> Research Project <input type="checkbox"/> Problem solving	
Assessment Methods	
<input checked="" type="checkbox"/> Formative Assessment <input checked="" type="checkbox"/> Quiz <input checked="" type="checkbox"/> Homework <input checked="" type="checkbox"/> Midterm <input checked="" type="checkbox"/> Final Exam	

Course Contents					
Week	Hours	CLOs	Topics	Teaching & Learning Methods	Assessment Methods
1.	3	a1, b1	The Basics: Bonding and Molecular Structure	Discussion Brainstorming Advanced Lecture (Presentations)	Short quizzes, Exams
2.	3	a1, a2	Functional Groups and Intermolecular Forces	Discussion Brainstorming	Short quizzes, homework

3.	3	a3, b1, b2	An Introduction to Organic Reactions and Their Mechanisms: Acids and Bases	Advanced Lecture (Presentations) Discussion Brainstorming	quizzes - homework – exams
4.	3	a1, a2, b1,a3, a4, b3	Nomenclature and Conformations of Alkanes and Cycloalkanes	Advanced Lecture (Presentations) Brainstorming	quizzes - homework – exams
5.	3	a1, a2, b2,a3, a4, b3	Nomenclature and Conformations of Alkanes and Cycloalkanes	Advanced Lecture (Presentations) Brainstorming	quizzes - homework – exams
6.	3	a2, b2	Stereochemistry: Chiral Molecules	Advanced Lecture (Presentations) Using instructional technologies	quizzes - homework – exams
7.	3	a2, a3,a4, b1, b3	Ionic Reactions	Advanced Lecture (Presentations) Using instructional technologies	quizzes - homework – exams
8+9	6	a2, a3, a4, b1, b2, b3	Alkenes and Alkynes I: Properties and Synthesis	Advanced Lecture (Presentations) Using instructional technologies	quizzes – homework – exams
9+10	6	a2, a3, , b1	Alkenes and Alkynes II: Addition Reactions	Advanced Lecture (Presentations) Using instructional technologies	quizzes - homework – exams
11+12	5	a2, a3, b2	Alcohols and Ethers	Advanced Lecture (Presentations) Using instructional technologies	quizzes - homework – exams
12+13	4	a1, a2, a3,a4 b1,b2, b3	Aldehydes and Ketones	Advanced Lecture (Presentations) Using instructional technologies	quizzes - homework – exams

	Group work activities								
	Labtests and assignments								
	Presentations								
	Quizzes	15%	3	3	3	0	3	3	3
	Total	100%	16	20	11	5	16	20	12

Plagiarism

Plagiarism is claiming that someone else's work is your own. The department has a strict policy regarding plagiarism and, if plagiarism is indeed discovered, this policy will be applied. Note that punishments apply also to anyone assisting another to commit plagiarism (for example by knowingly allowing someone to copy your code).

Plagiarism is different from group work in which a number of individuals share ideas on how to carry out the coursework. You are strongly encouraged to work in small groups, and you will certainly not be penalized for doing so. This means that you may work together on the program. What is important is that you have a full understanding of all aspects of the completed program. In order to allow proper assessment that this is indeed the case, you must adhere strictly to the course work requirements as outlined above and detailed in the coursework problem description. These requirements are in place to encourage individual understanding, facilitate individual assessment, and deter plagiarism.