



The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	Organic chemistry for non-chemistry student	
2	Course number	0333233	
3	Credit hours (theory, practical)	3	
	Contact hours (theory, practical)	3	
4	Prerequisites/corequisites	0303101	
5	Program title		
6	Program code		
7	Awarding institution		
8	Faculty	Faculty of science	
9	Department	Chemistry	
10	Level of course	First year	
11	Year of study and semester (s)	First semester	
12	Final Qualification		
13	Other department (s) involved in teaching the course	N/A	
14	Language of Instruction	English	
15	Date of production/revision		

16. Course Coordinator:

Office numbers, office hours, phone numbers, and email addresses should be listed.

Almeqdad Habashneh, Chemistry building room 154, a.habashneh@ju.edu.jo

17. Other instructors:

Office numbers, office hours, phone numbers, and email addresses should be listed.

Mohamad Mubarak, Chemistry building room 254, mmubarak@ju.edu.jo

Ahmad Qassin, Chemistry building room 54, aqhusein@yahoo.com

Mansour Nawasra Chemistry building room 107, mansreh@yahoo.com

18. Course Description:

As stated in the approved study plan.

This course deals with: 1) Chemical Bonding. 2) Alkanes, Alkenes, and Alkynes, nomenclature, properties, synthesis, and reactions. 3) Aromatic compounds nomenclature, properties, synthesis, and reactions. 4) Alkyl halides nomenclature, properties, synthesis, and reactions. 5) Stereochemistry. 6) Alcohols, phenols, and ethers. nomenclature, properties,

synthesis, and reactions. 7) Aldehydes and ketones. nomenclature, properties, synthesis, and reactions. 8) Carboxylic acid and their derivatives. nomenclature, properties, synthesis, and reactions. 9) Amines. nomenclature, properties, synthesis, and basicity.

19. Course aims and outcomes:

A- Aims:

1. To learn the various functional groups, hybridization, resonance, and structures
2. To name and draw organic compounds
3. To compare the physical and chemical properties of organic compounds
4. To understand the mechanism of reactions for various organic compounds
5. To know the concept of stereochemistry, chirality, and isomerism
6. To learn how to synthesize simple organic compounds

B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to ...

1. By the end of semester, the students should be able to understand the atomic structure and bonding types for organic compounds.
2. Draw the chemical structure for any organic formula.
3. Identify the bonding types and draw the resonance structures.
4. Name simple organic compounds and draw their structures.
5. Compare the physical and chemical properties for different organic compounds.
6. Compare the acidity of different organic compounds as alcohols, phenols and carboxylic acids
7. Write reaction equations, Mechanisms and possible intermediates, Transition states with relative energy.
8. Study the conformation of simple alkanes, cyclohexane and substituted cyclohexanes.
9. Preparations and reactions of different organic compounds such as alkene, alkynes, alcohols, alkylhalides, aldehyde, ketones, carboxylic acids, carboxylic acid derivatives and amines.
10. Understand the concept of stereochemistry and its application in organic chemistry
11. Identify a pair of organic compounds to constitutional isomers, diastereomers, enantiomers and conformers.
10. Study the alkyl halides, alcohols and ethers, and their substitution and elimination reactions
11. Study the aromatic compounds and electrophilic aromatic reaction.
12. Recognize the aromatic compounds,
13. Compare between different substituted aromatic compounds according to their reactivity's upon electrophilic aromatic substitution.
14. Synthesis disubstituted benzene compounds starting from benzene.
15. Study the chemistry of aldehyde, and ketones
16. Study the nucleophilic addition reactions in aldehyde and ketones by using different nucleophiles such as alcohols, amines and Grignard reagent.
17. Study the chemistry of carboxylic acids, carboxylic acid derivatives
18. Study the nucleophilic substitution reactions in carboxylic acids, carboxylic acid derivatives
19. Compare between different carboxylic acid derivatives compounds according to their reactivity's upon nucleophilic substitution reaction.
20. Study the chemistry of amines
21. Compare between different amines and anilines according to their basicity.
22. Synthesis multisubstituted benzene compounds by using diazonium salt as a precursor.

20. Topic Outline and Schedule:

Topic	Week	Instructor	Achieved ILOs	Evaluation Methods	Reference
1: Bonding and Isomerism	1	All		First exam	Chapter 1
2: Alkanes and Cycloalkanes ; Conformational and Geometric Isomerism	2 and 3	All		First exam	Chapter 2
3: Alkenes and Alkynes	4 and 5	All		First exam	Chapter 3
4: Aromatic Compounds	5 and 6	All		First exam	Chapter 4
5: Stereoisomerism	7 and 8	All		Second exam	Chapter 5
6: Organic Halogen Compounds	9 and 10	All		Second exam	Chapter 6
7: Alcohols, Phenols & Thiols	11	All		Second exam	Chapter 7
8: Ethers and Epoxides	12	All		Second exam	Chapter 8
9: Aldehydes and Ketones	13	All		Final exam	Chapter 9
10: Carboxylic Acids and Their Derivatives	14 and 15	All		Final exam	Chapter 10
11: Amines and Related Nitrogen Compounds	16	All		Final exam	Chapter 11

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

Class periods will be a mixture of theory, analysis, demonstration, and discussion. I believe in the active-learner approach. You are required to prepare. Visual aids will be used in the class.

22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

First, second and final exams. snap quiz

23. Course Policies:

A- Attendance policies: All students are expected to follow the rules at The University of Jordan. Unexcused absences exceeding 15% of the total number of class meetings (8 classes) will result in "F" grade

B- Absences from exams and handing in assignments on time: University regulation.

C- Health and safety procedures: N/A

D- Honesty policy regarding cheating, plagiarism, misbehavior: University regulation.

E- Grading policy: University regulation.

F- Available university services that support achievement in the course: N/A

24. Required equipment:

Data Show

Board

Presentation slides

Laptop

25. References:

Required book (s), assigned reading and audio-visuals:

Hart, Craine, Hart and Hadad, Organic Chemistry, A Short Course, 13th Edition (Houghton and Mifflin, Boston).

A- Recommended books, materials, and media: