

Course E-Syllabus

1	Course title	Organic Chemistry 1
2	Course number	0303231
3	Credit hours	3
	Contact hours (theory, practical)	3
4	Prerequisites/Corequisites	0303102 (for chemistry students) or 0303101 (for pharmacy students)
5	Program title	B.Sc.
6	Program code	0303
7	Awarding institution	The University of Jordan
8	School	Science
9	Department	Chemistry
10	Level of course	2 nd year
11	Year of study and semester (s)	2020/2021 First Semester
12	Final Qualification	
13	Other department (s) involved in teaching the course	None
14	Language of Instruction	English
15	Teaching methodology	<input type="checkbox"/> Blended <input checked="" type="checkbox"/> Online
16	Electronic platform(s)	<input type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others.....
17	Date of production/revision	20/10/2020

18 Course Coordinator:

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19 Other instructors:

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20 Course Description:

As stated in the approved study plan.

This course provides the basic knowledge in alkanes, and cycloalkanes (IUPAC names and conformations), alkenes, alkynes with their reactions, stereochemistry, organic reactions including substitution and elimination reactions for alkyl halides.

21 Course aims and outcomes:

A- Aims:

- 1- Establishment of a good basic knowledge in identification of different functional groups in organic compounds,
- 2- Knowing the basic reactions for alkenes, alkynes, alkyl halides,
- 3- Applying the IUPAC rules for naming alkanes, alkenes, alkynes and alkyl halides,
- 4- Studying the relationship between the stability of compounds vs their conformations.
- 5- Learning the simple guidelines in synthesis of organic compounds

B- Intended Learning Outcomes (ILOs):

Upon successful completion of this course, students will be able to:

- 1- Apply the IUPAC rules for naming the target organic molecules,
- 2- Draw and understand the structure of organic compounds,
- 3- Draw the different types of isomers of organic compounds,
- 4- Relate the structures of organic compounds to their reactions.
- 5- Write the products of organic reactions and their mechanisms.

22. Topic Outline and Schedule:

Week	Lecture	Topic	Teaching Methods*/platform	Evaluation Methods**	References
1	1.1	Introduction & sp ³ Hybridization	Online meetings/ Microsoft Teams	Quizes and exams	- Organic Chemistry, 8 th Edition By John McMurry
	1.2	sp ² & sp hybridization	//		//
	1.3	Drawing chemical Structures	//		//
2	2.1	Polar bonds	//		//
	2.2	Formal charge, resonance structures	//		//
	2.3	Alkyl groups	//		//
	2.3	Functional groups			//
3	3.1	Isomerism	//		//
	3.2	Nomenclature of alkanes	//		//
	3.3	Physical properties of alkanes	//		//
4	4.1	Conformations of alkanes	//		//
	4.2	Nomenclature of cycloalkanes	//		//
	4.3	Ring strain	//		//
5	5.1	Conformation of cycloalkanes	//		//
	5.2	Conformation of substituted cyclohexane	//		//
	5.3	Optical activity	//		//
6	6.1	Chiral and achiral objects	//		//
	6.2	R & S convention	//		//
	6.3	Enantiomers	//		//
				Quiz	

7	7.1	Diastereomers	//		//
	7.2	Degree of unsaturation	//		//
	7.3	Nomenclature of alkenes & Cis-trans isomers	//		//
8	8.1	E-Z convention and Stability of alkenes	//		//
	8.2	Addition reactions & Mechanism of electrophilic addition	//		//
	8.3	Hammond postulate & carbocation rearrangement	//		//
9	9.1	Synthesis of alkenes & addition of hydrogen	//		//
	9.2	Addition of halogens and water	//		//
	9.3	Oxymercuration & hydroboration	//		//
10	10.1	Hydroxylation and ozonolysis	//		//
	10.2	KMnO ₄ oxidation & stereochemistry of addition reactions	//		//
	10.3	Alkenes: Revision	//		//
					//
11	11.1	Alkynes: Nomenclature and synthesis	//		//
	11.2	Addition reactions	//		//
	11.3	Reduction of alkynes	//		//
				Midterm Exam	
12	12.1	Acidity of alkynes	//		//
	12.2	Halogenation of alkanes	//		//
	12.3	Reactivity of hydrogens & allylic bromination	//		//

13	13.1	Organometallic compounds	//		//
	13.2	SN2 reactions	//		//
	13.3	SN1 reactions	//		//
14	14.1	Nucleophiles and leaving groups	//		//
	14.2	SN1 & SN2 in comparison	//		//
	14.3	E1 & E2 reactions	//		//
					//
15	15.1	Substitution and elimination in competition	//		//
				Final Exam	

- Teaching methods include: Online lecturing
- Evaluation methods include: Exam, Midterm Exam...etc

23 Evaluation Methods:

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

Evaluation Activity	Mark	Topic(s)	Period (Week)	Platform
Exam	20	Chap1-5		Microsoft Teams
Midterm	30	Chap7-9		//
Final	50	All chapters		?

24 Course Requirements (e.g: students should have a computer, internet connection, webcam, account on a specific software/platform...etc):

Computer + Internet Connection

25 Course Policies:

A- Attendance policies: Maximum 15% absence is allowed

B- Absences from exams and submitting assignments on time: incomplete exams are arranged for at a later time

C- Health and safety procedures: This is a theoretical course

D- Honesty policy regarding cheating, plagiarism, misbehavior: University laws are applied in any cheating case

E- Grading policy: Letters scale is applied

F- Available university services that support achievement in the course: Internet access and e-learning

26 References:

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

Organic Chemistry by McMurry , 8th ed., Molecular Models

B- Recommended books, materials and media:

Any Organic Chemistry introductory Text

U-Tube lectures

27 Additional information:

Name of Course Coordinator: ---Musa H. Abu Zarga-----Signature: -----

--- Date: -20/10/2020-----

Head of Curriculum Committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of Curriculum Committee/Faculty: ----- Signature: -----

Dean: ----- Signature: -----