Course Description Form of Organic chemistry

1. Course Name:
Organic Chemistry
2. Course Code:
COA-1102
3. Semester / Year:
Course 2024-2025
4. Description Preparation Date:
15/1/2025
5. Available Attendance Forms:
Mandatory
6. Number of Credit Hours (Total) / Number of Units (Total)
Number of hours = 5 weekly for 15 weeks , number of units = 6
7. Course administrator's name (mention all, if more than one name)
Name: Eman Rahman Mahdi Abed **Email: emanrahman@uodiyala.edu.iq** **Faris Shaker Hmood**
8. Course Objectives
• **The course aims to teach students the basics and concepts of chemistry of saturated and unsaturated aliphatic hydrocarbon compounds. It includes lessons on the chemical bonds and chemical formulas of hydrocarbon compounds. It also includes a definition of each of these compounds, its name, and its derivatives according to the international IUPAC system, as well as the physical properties of each compound and its chemical interactions with other hydrocarbon compounds.**
9. Teaching and Learning Strategies
1- Explains the basic concepts in organic chemistry. **2- Distinguish the chemical formulas of hydrocarbon compounds.** **3- Differentiate between the types of chemical reactions of hydrocarbon compounds** **4- Compares the results of reactions of hydrocarbon compounds.** **5- It applies the IUPAC rules for naming hydrocarbon compounds** **6- Conducts experiments to detect hydrocarbon compounds in the laboratory** **7- Writing laboratory reports on the analysis of hydrocarbon compounds is completed according to guidelines.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Introduction to organic chemistry and its importance	Organic chemistry	Lecture Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
2	2	Saturated hydrocarbons (alkanes-paraffins) (nomenclature ,reactions , preparation)	Organic chemistry	Lecture Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
3	2	Unsaturated hydrocarbons (alkenes)	Organic chemistry	Lecture Dialogue &	Daily, monthly and final exams

		(nomenclature ,reactions , preparation)		**discussion Brainstorming**	and daily reports
4	**2**	**Unsaturated hydrocarbons (alkynes-acetylenes) nomenclature ,reactions , preparation**	**Organic chemistry**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
5	**2**	**First month exam**			
6	**2**	**Alkyl halides (nomenclature ,reactions , preparation)**	**Organic chemistry**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
7	**2**	**Alcohols (nomenclature ,reactions , preparation)**	**Organic chemistry**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
8	**2**	**Ethers(nomenclature ,reactions , preparation**	**Organic chemistry**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
9	**2**	**Carboxylic acids and Its Derivatives (nomenclature ,reactions , preparation)**	**Organic chemistry**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
10	**2**	**Second month exam**			
11	**2**	**Aldehydes and ketones (nomenclature ,reactions , preparation)**	**Organic chemistry**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
12	**2**	**Aromatic compounds(nomenclature ,reactions , preparation)**	**Organic chemistry**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
13	**2**	**Cyclic compounds (nomenclature ,reactions , preparation)**	**Organic chemistry**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
14	**2**	**Third month exam**			
15	**2**	**Amines(nomenclature ,reactions , preparation)**	**Organic chemistry**	**Lecture ,Dialogue , Discussion and Brainstorming**	**daily ,monthly , final exams and daily reports**

practical part

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**3**	**Laboratory safety rules**	**Organic chemistry**	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
2	**3**	**Tools and equipment used in**	**Organic**	**Observation**	Daily, monthly and

		organic chemistry laboratory	**chemistry**	**Dialogue & discussion**	final exams and daily reports
3	**3**	**Melting point measurement**	**Organic chemistry**	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
4	**3**	**Boiling point measurement**	**Organic chemistry**	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
5	**3**	**Sublimation**	**Organic chemistry**	**Observation Dialogue and discussion**	**daily ,monthly , final exams and daily reports**
6	**3**	**First month exam**			
7	**3**	**Recrystallization**	**Organic chemistry**	**Observation Dialogue and discussion**	**daily ,monthly , final exams and daily reports**
8	**3**	**Detection of Alcohol**	**Organic chemistry**	**Observation Dialogue and discussion**	**daily ,monthly , final exams and daily reports**
9	**3**	**Detection of phenols**	**Organic chemistry**	**Observation Dialogue and discussion**	**daily ,monthly , final exams and daily reports**
10	**3**	**Second month exam**			
11	**3**	**Detection of aldehydes and ketones - Fehling's reagent (a specific test for aliphatic aldehydes)**	**Organic chemistry**	**Observation Dialogue and discussion**	**daily ,monthly , final exams and daily reports**
12	**3**	**Detection of aldehydes and ketones (chromic acid detection)**	**Organic chemistry**	**Observation Dialogue and discussion**	**daily ,monthly , final exams and daily reports**
13	**3**	**Detection of carboxylic acids (detection of sodium carbonate)**	**Organic chemistry**	**Observation Dialogue and discussion**	**daily ,monthly , final exams and daily reports**
14	**3**	**Detection of carboxylic acids (detection of sodium bicarbonate**	**Organic chemistry**	**Observation Dialogue and discussion**	**daily ,monthly , final exams and daily reports**
15	**3**	**Third month exam**			

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**Youssef Ali Al-Fattahi, 1989, Foundations of Organic Chemistry, a methodological book for students of the College of Agriculture and Life Sciences, University of Baghdad, House of Wisdom**
Main references (sources)	• **Raymond Chang 2002 "Chemistry"7th Ed.McGraw- Hill Higher Compaine.** • **Richard E. Beleil (2005). General chemistry Lab. Manual, Dakota State university, U.S.A**
Recommended books and references (scientific journals, reports...)	**Iraqi academic scientific journals**
Electronic References, Websites	