



## Course Description Form

1. Course Name:	
Organic Chemistry	
2. Course Code:	
ORCH105	
3. Semester / Year:	
Autum Semester /Academic Year 2023	
4. Description Preparation Date:	
1-2-2024	
5. Available Attendance Forms:	
Platform	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 hours Theoretical 3 hours practical /3.5 unit	
7. Course administrator's name (mention all, if more than one name)	
Name: Assist. Prof. Dr. Ahmed Mukhaiber Hamdoon, Lecturer Sura Salim Hamid Email: <a href="mailto:ahmedalhyali@uomosul.edu.iq">ahmedalhyali@uomosul.edu.iq</a>	
8. Course Objectives	
<p>Theoretical:</p> <ul style="list-style-type: none"><li>▪ Providing students with awareness of the importance of chemistry at the industrial, agricultural and environmental levels.</li><li>▪ Provide applications with a broad foundation and balance of knowledge and skills in organic chemistry.</li><li>▪ Developing the student's ability to apply their knowledge and professional skills in solving experimental problems in chemistry, which exceeds the goals of practical development.</li><li>▪ Developing the skills of valuable students in their field of specialization.</li><li>▪ Students gain from applying and employing their skills to serve society</li></ul>	<p>Practical:</p> <ul style="list-style-type: none"><li>▪ Introducing and informing the student about the most important devices and equipment</li><li>▪ Used in the laboratory</li><li>▪ Introducing the student to the most important conditions that must be met in an ideal laboratory</li><li>▪ Introducing the student to safety procedures while working in the laboratory.</li><li>▪ Teaching the student the best diagnostic methods.</li><li>▪ Finding the appropriate and quick method for diagnosis</li><li>▪ Enable the student to perform calculations to find the concentrations of substances and the percentages of the resulting substances.</li></ul>

	<ul style="list-style-type: none"> <li>Finding alternatives if the devices used are not available.</li> </ul>
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### 9. Teaching and Learning Strategies

<b>Theoretical:</b> <ul style="list-style-type: none"> <li>Interactive lecture</li> <li>Brainstorming</li> <li>Dialogue and discussion</li> <li>Assignment of reports</li> <li>Conduct daily tests and monthly examinations</li> </ul>	<b>Practical:</b> <ul style="list-style-type: none"> <li>Interactive lecture</li> <li>Discussion, dialogue and brainstorming</li> <li>Conducting laboratory experiments</li> <li>Set reports</li> <li>Conduct daily tests and</li> <li>Monthly checks</li> </ul>
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### 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2h 3h	A1: The student learns about the concept of organic chemistry and its importance in different areas of life. C1: Student sets the melting point	Theoretical: General principles of organic chemistry practical: Determination of melting point	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
2	2h 3h	A2: The student is familiar with the most important properties, names, reactions, and preparation of alkanes C2: The student determines the boiling point	Theoretical: Hydrocarbons Saturated (alkanes) practical: Determination of boiling point	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
3	2h 3h	A3: The student learns about the types of alkenes in terms of nomenclature and methods of preparing them A4: The student uses a distillation device for purification	Theoretical: Hydrocarbons Unsaturated (alkenes) practical: Purification of liquid organic compounds by simple distillation	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
4	2h 3h	A5: The student understands the types of reactions of alkenes	Theoretical: Reactions of alkenes and types of dienes	Lectures And audio means	Exams Reports Discussion and

		and dienes A6: The student learns about the types of solvents used for recrystallization	Practical: Recrystallization + Scientific visit	And reports And conduct experiments	questions
5	2h 3h	A7: The student learns about the types of alkynes in terms of nomenclature, methods of preparing them, and their reactions A8: The student learns the procedure for purifying solid organic compounds by sublimation	Theoretical: Alkynes (acetylenes) practical: Sublimation	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
6	2h 3h	A9: The student learns about the chemical and physical properties of aromatic compounds and ways to name them practical: B1: The student carries out a practical application procedure on how to separate liquid or solid organic compounds by solvent extraction	Theoretical: Properties and nomenclature of aromatic compounds practical: Solvent extraction	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
7	2h 3h	A10: The student understands the methods of preparing aromatic compounds and the types of their reactions A11: The student learns how to prepare methane gas in the laboratory	Theoretical: Preparation and reactions of aromatic compounds practical: Preparation of methane gas	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions

8	2h 3h	A12: The student learns about the properties and nomenclature of alcohols and phenols A13: The student learns how to prepare 1_Butene	Theoretical: Properties and nomenclature of alcohols and phenols practical: Preparation 1_ Butene	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
9	2h 3h	A14: The student is familiar with the methods of preparation and reactions of alcohols and phenols B2: The student carries out a practical application by preparing acetylene gas	Theoretical: Preparation and reactions of alcohols and phenols practical: Preparation of acetylene gas	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
10	2h 3h	A15: The student learns about ethers, how to prepare them, and the types of their reactions B3: The student carries out a practical application to detect types of alcohol	Theoretical: Ethers practical: Study of the properties of alcohols	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
11	2h 3h	A16: The student learns how to name, prepare and react aldehydes B4: The student carries out a practical application on how to distinguish between aldehydes and ketones	Theoretical: Preparation, naming and reactions of aldehydes practical: Reaction and detection of aldehydes and ketones	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
12	2h 3h	A17: The student learns about the names, preparation, and reactions of ketones B5: The student carries out a practical application on how to prepare acetone	Theoretical: Preparation, nomenclature and reactions of ketones practical: Preparation of acetone	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions

13	2h 3h	A18: The student learns about carboxylic acids and studies their chemical properties D1: Experience a practical application on how to prepare Propanoic acid	Theoretical: Properties and nomenclature of carboxylic acids practical: Preparation of propanoic acid	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
14	2h 3h	A19: The student understands the types of reactions and methods for preparing carboxylic acids B6: The student applies how to prepare propionaldehyde	Theoretical: Reactions and preparation of carboxylic acids practical: Preparation of propionaldehyde	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
15	2h 3h	A20: The student understands the importance of amines A21: The student is familiar with the methods of detecting theoretical elements: Amines Detect items	Theoretical; Amines practical: Detect items	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions

### 11. Course Evaluation

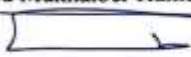


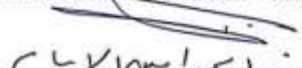
t	Evaluation methods	Evaluation date (one week)	Grade	Relative weight %
1	Final theoretical report + theoretical practical reports	Theoretical 15 weeks Practical 1-15 weeks	7theoretical + 6 practical	13%
2	Short test 1 Quiz	3 weeks	4theoretical + 2practical	6%
3	Midterm exam (theoretical and practical)	9 weeks	10theoretical + 5 practical	15%
4	Short test 2 Quiz	12 weeks	4 theoretical + 2 practical	6%
5	Final practical test	practical exams week	20	20%
6	Final theoretical exam	theoretical exams week	40	40%
			100	100

### 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	<b>Organic Chemistry book</b> <b>Authors:</b> <ul style="list-style-type: none"> <li>• Prof. Dr. Salim Hamid Hussein</li> <li>• Prof. Dr. Sami Abdul-Ali</li> <li>• Khalid Fathi Al-ShaharI</li> </ul> <b>University of Mosul</b>
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	<b>2013 Dar Al-Kutub for Printing and Publishing</b>
Main references (sources)	<b>Organic Chemistry</b> <b>Authors:</b> <ul style="list-style-type: none"> <li>• Dr. Badie Aii Ahmed</li> <li>• Dr. Salim Hamid Hussein</li> <li>• Khalid Fathi Al-Shahari</li> </ul> <b>Published by Mosul University Press in 1991</b>
Recommended books and references (scientific journals, reports...)	Principles of Organic Chemistry  <b>Authors:</b> <ul style="list-style-type: none"> <li>• Prof.Dr. Mohamed Magdy Wasel/Cairo</li> </ul> Fundamentals of Organic Chemistry  <b>Authors:</b> Prof. Dr. Mohamed Wasel
Electronic References, Websites	<a href="https://arabian-chemistry.com/">https://arabian-chemistry.com/</a> <a href="https://scholar.google.com/">https://scholar.google.com/</a>

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