Course Description Form

1. Course Name:

Organic Chemistry

2. Course Code:

ORCH105

3. Semester / Year:

Autum Semester /Academic Year 2023

4. Description Preparation Date:

1-9-2023

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: ahmedalhyali@uomosul.edu.iq

8. Course Objectives

Theoretical:	Practical:
• Providing students with awareness of the importance of chemistry at the industrial, agricultural and environmental levels. • Provide applications with a broad foundation and balance of knowledge and skills in organic chemistry. • 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. • Developing the skills of valuable students in their field of specialization. • Students gain from applying and employing their skills to serve society	• Introducing and informing the student about the most important devices and equipment • Used in the laboratory • Introducing the student to the most important conditions that must be met in an ideal laboratory • Introducing the student to safety procedures while working in the laboratory. • Teaching the student the best diagnostic methods. • Finding the appropriate and quick method for diagnosis • Enable the student to perform calculations to find the concentrations of substances and the percentages of the resulting substances. • Finding alternatives if the devices used are not available.

9. Teaching and Learning Strategies

Theoretical:	Practical:
· Interactive lecture · Brainstorming · Dialogue and discussion · Assignment of reports · Conduct daily tests and monthly examinations	· Interactive lecture · Discussion, dialogue and brainstorming · Conducting laboratory experiments · Set reports · Conduct daily tests and · Monthly checks

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) practicaI: 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 and dienes A6: The student learns about the types of	Theoretical: Reactions of alkenes and types of dienes Practical: Recrystallization + Scientific visit	Lectures And audio means And reports And conduct	Exams Reports Discussion and questions

		solvents used for recrystallization		experiments	
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 a practical application o 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)	**Organic Chemistry book** **Authors:** • Prof. Dr. Salim Hamid Hussein • Prof. Dr. Sami Abdul-Ali • Khalid Fathl Al_Shaharl **University of Mosul**

	2013 Dar Al-Kutub for Printing and Publishing
Main references (sources)	**Organic Chemistry** **Authors:** • Dr. Badie Ali Ahmed • Dr. Salim Hamid Hussein • Khalid Fathi Al-Shahari **Published by Mosul University Press in 1991**
Recommended books and references (scientific journals, reports...)	Principles of Organic Chemistry Authors: • Prof.Dr. Mohamed Magdy Wasel/Cairo Fundamentals of Organic Chemistry Authors: Prof. Dr. Mohamed Wasel
Electronic References, Websites	https://arabian-chemistry.com/ https://scholar.google.com/

Lecturer Name (Theory) Assist. Prof. Dr. Ahmed Mukhaiber Hamdoon	Lecturer Name (Practical) Lecturer Sura Salim Hamid
Head of Department الدكتور عمار يونس كشمولة	Chairman of the scientific committee

جامعة الموصل
كلية التربية للعلوم الصرفة
قسم علوم التربية والدراسات الإنسانية