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:, Lecturer Sura Salim Hamid, Lecturer Alaa Taha Azeez
Email: surasaIimhamid74@uomosul.edu.iq

8. Course Objectives

Theoretical:

- 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

Practical:

- 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: ・ Interactive lecture ・ Brainstorming ・ Dialogue and discussion ・ Assignment of reports ・ Conduct daily tests and monthly examinations	Practical: ・ 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: Saturated Hydrocarbons (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: Unsaturated Hydrocarbons (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 solvents used for recrystallization	Theoretical: Reactions of alkenes and types of dienes Practical: Recrystallization + Scientific visit	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and 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 o a practical application or 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	Theoretical: Reactions and preparation of	Lectures And audio means	Exams Reports Discussion and

		methods for preparing carboxylic acids B6: The student applies how to prepare propionaldehyde	carboxylic acids practical: Preparation of propionaldehyde	And reports And conduct experiments	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. SaIim Hamid Hussein • Prof. Dr. Sami Abdul-Ali • KhaIId FathI AI_ShaharI **University of Mosul** **2013 Dar Al-Kutub for Printing and Publishing**
Main references (sources)	**Organic Chemistry** **Authors:** • Dr. Badie Aii Ahmed • Dr. SaIim 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)	Lecturer Name (Practical)
Lecturer Sura Salim Hamid	Lecturer Alaa Taha Azeez