2023
TP-153

Course Specification
(Bachelor)

Course Title:	Organic Chemistry I
Course Code:	CHEM233-3
Program:	Bachelor of Science in Chemistry
Department:	Department of Physical Sciences
College:	College of Science
Institution:	Jazan University
Version:	TP-153 (2024)
Last Revision Date:	31 January 2024

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: (3 hr)

2. Course type

A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required		☐Elective		

3. Level/year at which this course is offered: (3rdLevel/2nd Year)

4. Course general Description:

Course title	Course code	Contact Hours			Credit Hours	Year	Level	Prerequisite	Corequisite
		Lec	Tut	Lab					
Organic Chemistry I	CHEM233-3	3	0	0	3	2nd	3rd	CHEM102-3	---

This course aims to give basic knowledge to the students about the fundamentals of organic chemistry and the ability to differentiate between saturated, unsaturated and aromatic compounds along with their nomenclature, methods of preparation and some of their chemical reactions.

5. Pre-requirements for this course (if any)**:**

CHEM102-3

6. Co-requisites for this course (if any)**:**

Non

7. Course Main Objective(s):

1. **Recognize of physical properties of the different classes of organic compounds.**
2. **Studying the types of hybridization of carbon atoms and chemical bonds in organic compounds.**
3. **Identify the type of functional groups in organic compounds.**
4. **Gain an understanding of the nomenclature methods of organic compounds.**
5. **Identify and illustrate the isomerism phenomenon in organic compounds.**
6. **Understand the basics of the chemical reactions in the synthesis and reactions of saturated, unsaturated aliphatic and aromatic hydrocarbons.**

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		

No	Mode of Instruction	Contact Hours	Percentage
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	$3 \times 15 = 45$
2.	**Laboratory/Studio**	
3.	**Field**	
4.	**Tutorial**	
5.	**Others (specify)**	
Total		45

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding;** *Upon completion of the course, students are able to:*			
1.1	**Demonstrate a thorough understanding of the bonding in organic compounds through the hybridization concept, IUPAC rules of nomenclature of organic compounds, isomerism phenomena in organic compounds as well as the preparation and reactions of hydrocarbons and some aromatic compounds. (I) .**	**K1**	**lecture**	• **Periodic Exams** • **Assignments & Classroom activities** • **Lab work** • **Final Exam**
1.2	**Identify and explain the type of organic molecule according to functional groups, the organic reactions as elimination, nucleophilic substitution, and electrophilic addition then apply this knowledge to predict the major product in organic reactions. (I)**	**K2**	**lecture**	• **Periodic Exams** • **Assignments & Classroom activities** • **Lab work** • **Final Exam**
2.0	**Skills;** *Upon completion of the course, students are able to:*			
2.1	**Predict the nature of a reagent as a nucleophile or electrophile to utilize it in the synthesis of organic compounds. (I)**	**S1**	**lecture**	• **Periodic Exams** • **Assignments & Classroom activities** • **Lab work** • **Final Exam**

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Organic Chemistry	2
2.	Chemical bonding in organic compounds: Hybridization of methane, ethane and ethyne and polarity of molecules.	4
3.	Drawing of organic molecules: Dash formula, condensed structure, skeletal structure.	2
4.	Functional groups	4
5.	Isomerism, types of structural isomerism and types of stereoisomerism.	3
6.	Physical properties of organic molecules	3
7.	Nomenclature of Alkanes, Alkenes, and Alkynes and their cyclic forms.	8
8.	Alkenes and alkynes, preparation, reactions and their application	10
9.	Aromatic compounds, aromaticity, and Nomenclature	3
10	Electrophilic aromatic substitution for benzene, monosubstituted, disubstituted, and poly-substituted aromatics	6
Total		$3 \times 15W = 45.$

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	*Periodic Exams*	*During Semester*	*30%*
2.	*Assignments & Classroom Activities*	*During Semester*	*20%*
3.	*Final Exam*	*16-17*	*50%*
	Total		*100%*

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	Organic Chemistry. L.G. Wade, JR. 10th Edition. Prentice Hall/P Education Inc. New Jersey, 2023.

Supportive References	1. **Organic chemistry, by Graham Solomons TW, Craig B Fryhle, 12 2016.** 2. **Organic Chemistry. J. McMurry, 9th Edition, Books-Cole, 2023.**
Electronic Materials	**https://www.khanacademy.org/science/organic-chemistry** **https://www.organic-chemistry.org/** **https://en.wikipedia.org/wiki/Organic_chemistry** **https://www.masterorganicchemistry.com/organic-1/**
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Lecture room(s) for groups of 50 students
Technology equipment (projector, smart board, software)	Smart board, Data show, Black board, internet
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Student	Likert-type Survey CES) Indirect
Effectiveness of Students' assessment	Instructor & Course coordinator	Class room evaluation (direct & indirect
Quality of learning resources	Program coordinator	Indirect
The extent to which CLOs have been achieved	Assessment committee	Indirect
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	Physical Sciences Department Council
REFERENCE NO.	Meeting (3)
DATE	12/03/2024 -02/09/1445