هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

T-104
2022

Course Specification

Course Title:	**Applied Organic Chemistry**
Course Code:	**112 CHET**
Program:	**Chemical Engineering Technology**
Department:	**Chemical Engineering Technology**
College:	**CAIT**
Institution:	**JAZAN UNIVERSITY**
Version:	**V2022**
Last Revision Date:	**7 December 2022**

Table of Contents:

A. General information about the course:

Course Identification					
1. Credit hours:	2				
2. Course type					
a.	University ☐	College ☒	Department☐	Track☐	Others☐
b.	Required ☐	Elective☐			
3. Level/year at which this course is offered: L2/Y1					
4. Course general Description This course introduces the student to applied organic chemistry. It deals with the classification, functional group and nomenclature of organic compounds. This course covers basic topics on simple reaction mechanisms of alkanes, alkenes, alkynes, aldehydes, ketones, alcohols, phenols, carboxylic acids, aromatic compounds, and amines. The course also gives emphasis to the chemistry of petroleum, downstream industries, such as dyes, soaps and detergents, paints, adhesives, pharmaceuticals, and polymers (i.e., plastics, resins, and elastomers). The course will be supported by laboratory experiments.					
5. Pre-requirements for this course (if any): General Chemistry					
6. Co- requirements for this course (if any): Introduction to chemical engineering					
7. Course Main Objective(s) Organic Chemistry for non-Chemists course is a three credit hours course offered in the second semester of the freshman year of the CHET curriculum. The course goal is to deal with the classification, functional group and nomenclature of organic compounds. This course covers basic topics on simple reaction mechanisms of alkanes.					

1. Teaching mode (**mark all that apply)**

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	4	100
2.	E-learning	0	0
3.	Hybrid • Traditional classroom • E-learning	0	0
4.	Distance learning	0	0

2. Contact Hours **(based on the academic semester)**

No	Activity	Contact Hours
1.	Lectures	24
2.	Laboratory/Studio	24
3.	Field	0
4.	Tutorial	0
5.	Others (specify)	NA
	Total	48

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			
1.1	Describe the basic concepts and definitions of organic chemistry;	K1.3	Lecture, tutorial, active learning	Quizzes, Assignments, exams, and SSR
1.2				
…				
2.0	Skills			
2.1	Explain the nomenclature, structure, and physical properties of the different classes of organic compounds;	S_1.2	Lecture, tutorial, active learning	Quizzes, Assignments, exams, and SSR
2.2	Discuss chemical reactions calculations and stoichiometry	S_2.1	Lecture, tutorial, active learning	Quizzes, Assignments, exams
2.3	Practice hybridization and geometry of atoms and the three-dimensional structure of organic molecules;	S_4.3	Lecture, tutorial, active learning	Quizzes, Assignments, exams
3.0	Values, autonomy, and responsibility			
3.1	Choose data using appropriate techniques in the laboratory.	$V_{1.1}$	Assignments	Marks are given according to participating in classroom
3.2				
…				

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to the course	2
2.	Atomic structure & types of chemical bonds	2
3.	Brief about hybridization of atomic orbitals	2
4.	Classification of organic compounds and the types of chemical reactions	4
5.	Nomenclature of alkanes, cycloalkane	4
6.	Alkene, nomenclature, Alkyne , nomenclature and physical properties	4
7.	Alcohols, nomenclature, classification and physical properties; Ether , nomenclature, functional group isomerism	4
8.	**Reactions of alkanes, alkenes, alkynes, Addition, oxidation and reduction reactions**	SSR—2
--		
Total		

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quizzes	Week 2 till Week 12	20%
2.	Laboratory	All weeks	10%
3.	Midterm	Week 7	20%
5.	SSR	Last week	10%
6.	Final Term Exam	As scheduled	40%

*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	Lecture notes and hardcopies of some sections from "*Textbooks* John McMurry, **Organic Chemistry, 9th edition**, CENGAGE LEARNINIG 2015".
Supportive References	
Electronic Materials	https://authors.library.caltech.edu/25032/1/Organic_Chemistry.pdf
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classroom and Laboratory
Technology equipment (projector, smart board, software)	Computer and projector
Other equipment (depending on the nature of the specialty)	Not utilized

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Institution	Online Direct Survey
Effectiveness of students assessment	Course Coordinator	Indirect
Quality of learning resources	Course Coordinator	Indirect
The extent to which CLOs have been achieved	Course Coordinator	Excel Sheet-Direct
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	CHEMICAL ENGINEERING TECHNOLOGY
REFERENCE NO.	CAITCET24012

DATE	17-01-2024
