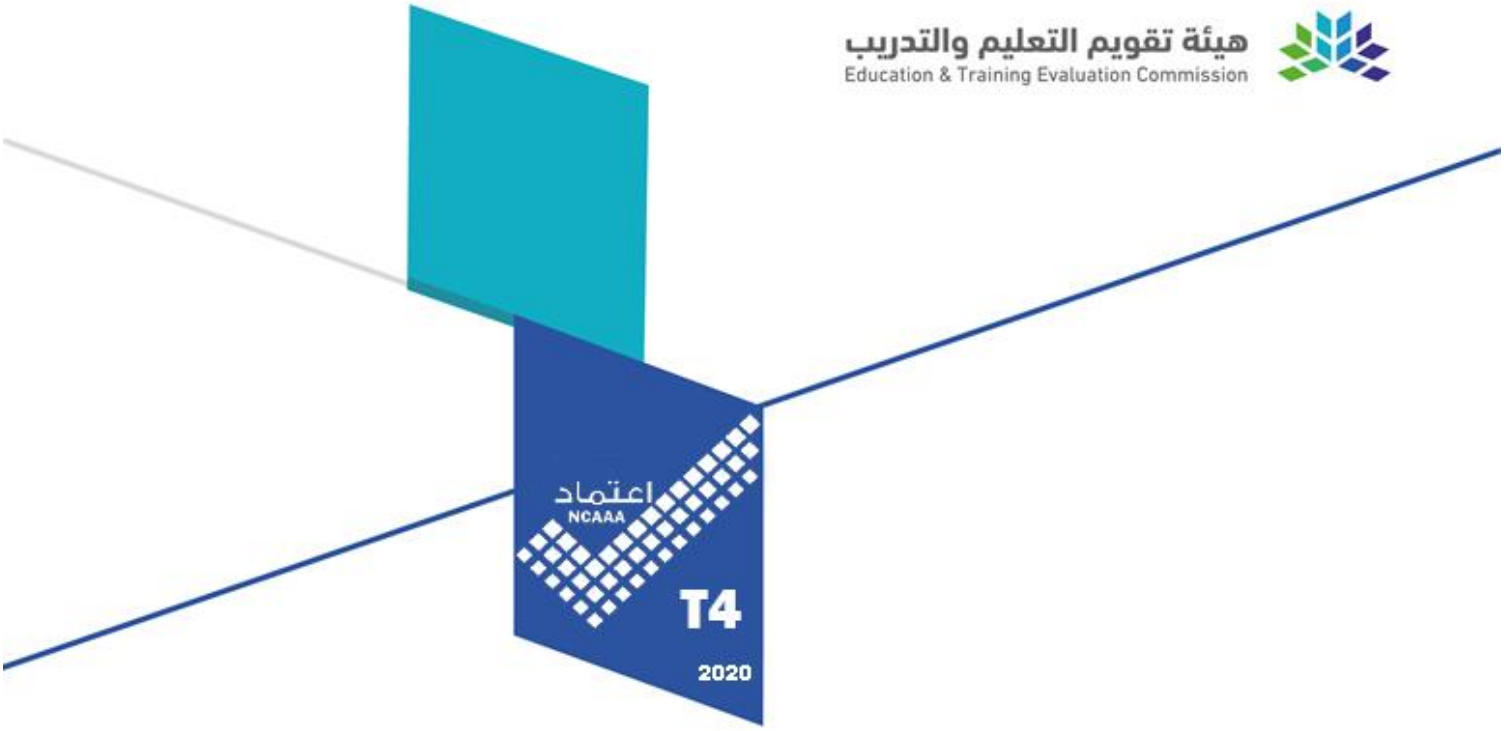
هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



Course Specifications

Course Title:	**Organic Chemistry 1**
Course Code:	**CHEM1202**
Program:	**Bachelor of Science in Chemistry**
Department:	**Chemistry**
College:	**Science**
Institution:	**University of Tabuk**

Table of Contents

A. Course Identification

1. Credit hours: **3 (2+1) hrs.**
2. Course type **a.** University ☐ College ☑ Department ☑ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: **3rd level / 2nd Year**
4. Pre-requisites for this course (if any)**: CHEM1101**
5. Co-requisites for this course (if any)**:** **N/A**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	**30**	% 50
2	**Blended**	00	% 00
3	**E-learning**	00	% 00
4	**Distance learning**	00	% 0
5	**Other**	30	% 50

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	**30**
2	**Laboratory/Studio**	**30**
3	**Tutorial**	0
4	**Others** (specify)	0
	Total	**60**

B. Course Objectives and Learning Outcomes

1. Course Description

Course include the methods of nomenclature, chemical properties and synthesis of all families of aliphatic compounds(in addition to some physical properties. The aim of this course is to explain, discover and examine the concepts in aliphatic organic chemistry for different functional groups and their chemical reactions. The course will design experiments for chemical reactions involving organic compounds.

2. Course Main Objective

- Predict and explain patterns in shape, structure, bonding, hybridization, formal charge, stability, acidity, basicity, and solubility by understanding and applying concepts of organic chemical structure and bonding and stability.
- Provide correct IUPAC names for different class of aliphatic organic compounds

- Recognize and apply functional groups by classifying organic molecules by their functional groups, and identify fundamental properties associates with those functional groups.
- Predict reaction products in the reaction of different class of functional group

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Recognize structure, bonding, , and reactivity of organic compounds.	K1
1.2	recall the different class of organic compounds and their reactions based on their functional group	K2
1.3	Understand how different functional groups affect the Physical, acidity and basicity properties of the molecules for carboxylic acids, amines, alcohols, Phenol and other functional groups.	K3
2	Skills :	
2.1	Predict and differentiate structures, name, and reactivity of different organic compounds based on their functional group	S1
2.3	Prepare and detection of Organic compounds based on their functional group	S2
3	**Values:**	
3.1	Ability to work independently to handle chemicals	V1
	Ability to work in a team to perform a specific experimental task	V3

C. Course Content

No	List of Topics	Contact Hours
1	Introduction of organic molecules(structure, properties, classification types of the reactions, type of the bonds, geometry and hybridization , electronic effect	**3**
2	Nomenclature of organic compounds	**3**
3	Preparation, physical properties, chemical reactions of Hydrocarbons(alkane , alkene , alkyne)	**3**
4	Preparation, physical properties, chemical reactions of Organic halides	**3**
5	Preparation, physical properties, chemical reactions of Alcohols,	**3**
6	Preparation, physical properties, chemical reactions Ethers	**3**
7	Preparation, physical properties, chemical reactions of Aldehydes and Ketones	**4**
8	Preparation, physical properties, chemical reactions of carboxylic acid compounds and their derivatives	**4**
9	Preparation, physical properties, chemical reactions of Amine and organic sulfide compounds	**4**
11	Some selected experiments	**30**
Total		60

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Recognize structure, bonding, , and reactivity of organic compounds.	Traditional lectures Working in groups Exercises during the class Brain storming Homework's assignments Effective class discussion	Written examinations Quizzes Assignments Activities during lectures (class room participation) assignments
1.2	Recall the different class of organic compounds and their reactions based on their functional group	Traditional lectures Working in groups Exercises during the class Brain storming Homework's assignments Effective class discussion	Written examinations Quizzes Assignments Activities during lectures (class room participation)
1.3	Understand how different functional groups affect the Physical, acidity and basicity properties of the molecules for carboxylic acids, amines, alcohols, Phenol and other functional groups.	Traditional lectures Working in groups Exercises during the class Brain storming Homework's assignments Effective class discussion	Written examinations Quizzes Assignments Activities during lectures (class room participation)
2.0	Skills		
2.1	Predict structures, name, stereochemistry and reactivity of different organic compounds	Working in groups Brain storming Exercises during the class Effective class discussion	Activities during lectures Written examinations quizzes Practical test assignments

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.2	Prepare and detection of Organic compounds based on their functional group	Traditional lectures Group work with presentation Practical work	Written examinations Practical test Laboratory reports assignments
3.0	**Values**		
3.1	Ability to work independently to handle chemicals	Practical work	Laboratory reports Assignments • Activities during lectures (class room participation)
	Ability to work in a team to perform a specific experimental task	Practical work Working in groups	Laboratory reports Assignments

2. Assessment Tasks for Students

#	Assessment task*		Week Due	Percentage of Total Assessment Score
1	Oral discussions and questions		During semester	5%
2	Quizzes		During semester	10%
3	Mid-Term Exam		9	20%
4	Practical exam	Reports and activities	11	15%
		final		10%
5	Final Exam		12	40%

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :
Direct supervision by course tutor over class activities.

Office hours 8hr/ week. to address students' questions.
Academic Guidance: The student is supervised by an academic advisor for advice and guidance.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	**1-Principles Of Organic Chemistry, Robert J. Ouellette, 2015, ISBN: 978-9351073185**
Essential References Materials	• **INTERNATIONAL, INC., London. Edition 6,Allyn and Bacon, Inc. 7 wells Avenue, Newton, Massachusetts 02159.** • **Organic Chemistry, Volume I, IL Finar, Sixth Edition, 2009, Dorling Kindersley Pvt. Ltd.**
Electronic Materials	**http://www.organicdivision.org/?nd=p_organic_web_links** **http://www.siencedirect.com** **http://sdl.edu.sa/SDLPortal/AR/Publishers.aspx**
Other Learning Materials	**Tetrahedron Letters** **Arabian Journal of Chemistry** **Journal of heterocyclic chemistry** **European journal of Chemistry**

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	**Traditional classroom; Classrooms with 25 seats**
Technology Resources (AV, data show, Smart Board, software, etc.)	**Multimedia projector, smart board**
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	**Molecular Models**

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Extent of achievement of course learning outcomes	Faculty	Direct
Effectiveness of teaching and Assessment.	Students and faculty	Indirect
Quality of learning resources	Peer Reviewer, students	Indirect

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Department of Chemistry
Reference No.	
Date	22/4/2022