



Course Specifications

Course Title:	Organic Chemistry
Course Code:	23052230-4
Program:	BSc Biology
Department:	Biology
College:	Aljumum University College
Institution:	Umm Al-Qura University

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A. Course Identification

1. Credit hours: 4 hours
2. Course type a. University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department <input type="checkbox"/> Others <input type="checkbox"/> b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
3. Level/year at which this course is offered: 2 nd year / level 3
4. Pre-requisites for this course (if any): General Chemistry (23051101-4).
5. Co-requisites for this course (if any): Non

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3 hours in 15 weeks	90%
2	Blended		0%
3	E-learning	1 hours in 15 weeks	10%
4	Correspondence		0%
5	Other		0%

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	16 hours
2	Laboratory/Studio	2 hours
3	Tutorial	1 hour
4	Others (specify)	Nothing
	Total	19 hours
Other Learning Hours*		
1	Study	16 hours
2	Assignments	2 hours
3	Library	1 hour
4	Projects/Research Essays/Theses	Nothing
5	Others (specify)	Nothing
	Total	19 hours

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description Reactions and chemical and physical properties of organic compounds.
2. Course Main Objective The course aims at introducing the student to aliphatic organic chemistry, naming its compounds and studying the functional groups of these compounds, their preparation methods, properties and interactions.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	The student should know the general basis of organic chemistry	
1.2	The student has multiple basic functional groups and physical and chemical properties of each group.	
1.3	The student should know the chemical reactions of the functional groups related to biology and biochemistry.	
2	Skills :	
2.1	The student should be aware of the chemical reactions of the proposed compounds through her knowledge of the functional group.	
2.2	The student should explain the results by giving an appropriate method to complete the chemical reactions.	
2.3	To practice creative thinking skills and analytical thinking skills to provide innovative solutions to solve chemical reactions	
3	Competence:	
3.1	The student should lead the group in different situations and participate in finding solutions to the proposed chemical reactions	
3.2	The student should be responsible for her own education and academic development	
3.3	The student communicates effectively orally and in writing to find solutions to the chemical reaction products	
3.4	The student should normally use more information technology to collect, analyze and communicate information and ideas.	
3.5	The student should choose a purification method (or separation method) suitable for the chemical under measurement	

C. Course Content

#	List of Topics	Contact Hours
1	Introduction to Organic Chemistry	3
2	Study the structure and properties of organic molecules and types of bonds in organic chemistry.	6
3	Space morphology and naming of organic compounds.	3
4	Hydrocarbons (Alkyne) properties, preparation, interactions and economic importance.	3
5	Hydrocarbons (Alkene) Preparation, properties, interactions and economic importance.	3
6	Hydrocarbons (Alkadiene) Preparation, properties, interactions and economic importance.	3
7	Alcohols and Ethers, their preparation, properties, interactions and economic importance.	6
8	Aldehydes and ketones, their properties, interactions and economic importance	3
9	Carboxylic acids prepared and their properties and interactions and economic importance	6
10	Amines prepared and their properties and interactions and economic importance	3
11	Organic nitro compounds, their properties, interactions and economic importance.	3
Total		42

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		
1.1	The student should know the general basis of organic chemistry	- Weekly lectures - Interactive presentations - Video presentations (educational videos)	- Exams - Group discussions
1.2	The student has multiple basic functional groups and physical and chemical properties of each group.		- Weekly oral test - Periodic tests - Group discussions
1.3	The student should know the chemical reactions of the functional groups related to biology and biochemistry.		- Exams
2.0	Skills		
2.1	The student should be aware of the chemical reactions of the proposed compounds through her knowledge of the functional group.	- Weekly lectures - Group discussion	- Exams - Group discussions
2.2	The student should explain the results by giving an appropriate method to complete the chemical reactions.	- Weekly lectures - Group discussion	- Unspoken test (Complete interaction)
2.3	To practice creative thinking skills and analytical thinking skills to provide innovative solutions to solve chemical reactions	- Create schemes of basic concepts and link chemical reactions of different functional groups to each other.	- final exam - Periodic exams
3.0	Competence		
3.1	The student should lead the group in different situations and participate in finding solutions to the proposed chemical reactions	- Active education	- Group discussion
3.2	The student should be responsible for her own education and academic development	-self education	- Unspoken test -Duties
3.3	The student communicates effectively orally and in writing to find solutions to the chemical reaction products	- Lectures - Weekly discussions	- Exams
3.4	The student should normally use more information technology to collect, analyze and communicate information and ideas.	- Follow-up learning portal of the course	- Group discussions
3.5	The student should choose a purification method (or separation method) suitable for the chemical under measurement	- Lectures - Demo videos	It was applied in theory (practical paper test) due to the emergence of the university college

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	First periodic test	6	%15
2	Second periodic test	13	%15
3	Practical final exam	14	%20
4	Theoretical final exam	15	%40
5	year works	Continuous evaluation	10%

*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 :

- 6 office hours per week, Monday (1-2-6-7), Tuesday (5), Wednesday (3)
- Participation in the Planet of Science Exhibition at the Adham University College

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	اساسيات الكيمياء العضوية	ديوسف لطفى علي
	Organic Chemistry, 3 rd	(R.T.Morrison and R.N. Boyd)
	الكيمياء العضوية	(ت.و. جراهام سولومنز ترجمة أ.د. عادل جرار)
	الشامل في الكيمياء العضوية العملي	(أ.د.الجازي العفالق)
	Fundamentals of Organic Chemistry	(T.W.Graham Solomons)
	Organic chemistry, T.W. Graham Solomons and Craig Fryhle, 9th ed., Wiley, 2007.	
Essential References Materials	<ul style="list-style-type: none"> • ORGANIC CHEMISTRY (Janice Gorznski Smith) • Organic Chemistry, Jonathan Clayden, Nick Greeves, Stuart Warren, Peter Wothers, OUP Oxford, 2001. 	
Recommended Reference	Organic Chemistry, Jonathan Clayden, Nick Greeves, Stuart Warren, Peter Wothers, OUP Oxford, 2001.	
Electronic Materials	محاضرات و كورسات	http://courses-lectures.com/2016/12/learn-chemistry-from-scratch/
	موقع الكيمياء بالعربي	https://arabian-chemistry.com
	Khan Academy	https://www.khanacademy.org/science/chemistr

	Chemistry	https://www2.chemistry.msu.edu/faculty/reusch/virttxtjml/intro1.htm
	Scopus ,Science direct , Reaxys, Science finder.	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom + Laboratory
Technology Resources (AV, data show, Smart Board, software, etc.)	Data display device
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Nothing

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Teaching effectiveness	Students	Direct
Effective methods of student assessment	Faculty members + students	Direct
The extent of learning outcomes for the course	Students	not directly

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	
Reference No.	
Date	

Head of Department


Dr. Wessam M. Filfilan

Stamp

