



Course Specifications

Course Title:	General Chemistry
Course Code:	23051101-4
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 type="checkbox"/> Department <input checked="" 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: 1 st year / level 1
4. Pre-requisites for this course (if any):
5. Co-requisites for this course (if any):

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	4	100%
2	Blended	0	0 %
3	E-learning	0	0 %
4	Correspondence	0	0 %
5	Other	0	0 %

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	3
2	Laboratory/Studio	1
3	Tutorial	0
4	Others (specify)	0
	Total	4
Other Learning Hours*		
1	Study	3
2	Assignments	0
3	Library	1
4	Projects/Research Essays/Theses	0
5	Others (specify)	0
	Total	4

* 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 The course aims to define the student, (characteristics of different material states measurement, electronic structure of atom, chemical bonds, electronic distribution, mole, chemical calculations, atomic and molecular weights, acids, bases, hydrocarbons).
2. Course Main Objective The course aims to introduce the student to: - Introduction to General Chemistry - Characteristics of different material states measurement units - Electronic structure of the atom - Different matter states, molecular shapes - Racial union and atomic and molecular weights

- Periodic Table.
- chemical reactions.
- Mole and chemical calculations.
- Chemical bonds.
- Fundamentals of chemical equilibrium.
- Acids and bases.
- Hydrocarbons.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	The student should know the units of measurement.	
1.2	The student should write the electronic distribution.	
1.3	The student should identify chemical bonds.	
1...		
2	Skills :	
2.1	To develop thinking skills to solve chemical problems.	
2.2	The student should explain the right solution to the problems.	
2.3	Students should choose the appropriate methods to determine the types of chemical bonds.	
2...		
3	Competence:	
3.1	The student should exercise the leadership of the group in different situations.	
3.2	The student should be responsible for her own education and academic development	
3.3	The student communicates effectively verbally and in writing to resolve issues.	
3...	The student should normally use more information technology to collect, analyze and communicate information and ideas.	

C. Course Content

#	List of Topics	Contact Hours
1	- Material and measurement units	3
2	- Electronic structure of the atom	6
3	- Different matter states, molecular shapes	3
4	- Atomic weight and atomic and molecular weights	3
5	- Periodic Table.	3
6	- chemical reactions.	3
7	- Mole and chemical calculations.	6
8	- Chemical bonds.	6

9	- Fundamentals of chemical equilibrium.	6
10	- Acids and bases.	3
11	Hydrocarbons	6
Total		48

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 units of measurement.	<ul style="list-style-type: none"> - Weekly lectures - Interactive presentations - Scientific discussions. 	<ul style="list-style-type: none"> -Exams -(Oral test - Periodic tests) - Group discussions
1.2	The student should identify the cases of the article.		
1.3	The student should write the electronic distribution.		
1.4	The student should write the chemical calculations.		
1.5	The student should identify chemical bonds.	<ul style="list-style-type: none"> - Weekly lectures - Interactive presentations - Scientific discussions. 	<ul style="list-style-type: none"> -Exams -(Oral test - Periodic tests) - Group discussions
1.6	The student should designate hydrocarbons according to the international system.		
1.7	The student searches on the Internet for some chemical experiments (practical).		
1.8	To choose one of the simple experiments and explain (practical).		
2.0	Skills		
2.1	To develop thinking skills to solve chemical problems.	<ul style="list-style-type: none"> - Lectures - Group discussion - Create schemas for basic concepts 	<ul style="list-style-type: none"> - Exams - Group discussions
2.2	The student should acquire the skill of discussing solutions to problems.		
2.3	The student should explain how she reached the right solution to the problems.		
2.4	Students can choose appropriate methods to determine the types of chemical bonds.		
2.5	The student should choose and discuss the chemical experiments.		
2.6	The student should explain the hydrocarbons and name them.		
2.7	The student should practice creative thinking skills and analytical thinking skills to accommodate and interpret		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	chemical experiments		
3.0	Competence		
3.1	The student should exercise the leadership of the group in different situations.	- Active education - Self education	- Exams - Group discussion - Duties
3.2	The student should be responsible for her own education and academic development		
3.3	The student communicates effectively verbally and in writing to resolve issues.	- Lectures - Weekly discussions - Follow-up learning portal of the course	- Exams - Group discussion
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 simplified method to explain the chemical experiment.	- Lectures - Demo videos - Charts and illustrative tables - Scout tests	Theoretically applied (practical paper test)
3.6	The student should determine the appropriate way to display the chemical vocabulary she learned.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	First periodic test	7	15 %
2	Second periodic test	13	15 %
3	Practical final exam	15	20 %
4	Theoretical final exam	16	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 :

There are 4 hours of office and guidance per week

Sunday (1-2), Monday (1-2)

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	1. Chemistry, R. Change, 10th Edition, McGraw-Hill Higher Education, 2011. 2. General Chemistry, E. B. Gallogly, 4th edition, D. A. Mcquarrie, P. A. Rock University Science books, Mill Vally, 2011
Essential References Materials	
Electronic Materials	https://arabian-chemistry.com (موقع الكيمياء بالعربي)
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms and laboratories
Technology Resources (AV, data show, Smart Board, software, etc.)	data show
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	----

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Students	Direct

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

