



Course Specifications

Course Title:	General Chemistry 1
Course Code:	4021101-4
Program:	Chemistry - Industrial Chemistry – Physics - Medical Physics – Biology – Microbiology - Mathematics
Department:	Department of chemistry
College:	Faculty of Applied Science/
Institution:	Umm Al-qura University

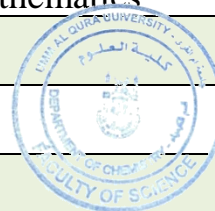


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A. Course Identification

1. Credit hours:			
2. Course type			
a.	University <input type="checkbox"/>	College <input checked="" type="checkbox"/>	Department <input type="checkbox"/>
b.	Required <input checked="" type="checkbox"/>	Elective <input type="checkbox"/>	Others <input type="checkbox"/>
3. Level/year at which this course is offered:			
1 st level			
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	30	
2	Blended		
3	E-learning		
4	Correspondence		
5	Other	45	

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	30
2	Laboratory/Studio	45
3	Tutorial	
4	Others (specify)	
	Total	75
Other Learning Hours*		
1	Study	30
2	Assignments	5
3	Library	5
4	Projects/Research Essays/Theses	
5	Others (specify)	
	Total	45

* 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: This course is an introductory chemistry course designed to prepare students for college level chemistry courses. The course introduces some basic principles of physical, organic and inorganic chemistry.

2. Course Main Objective

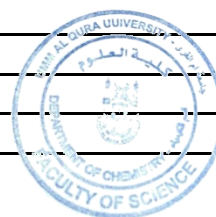
The course introduces some basic principles of physical, organic and inorganic chemistry.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Knows International system of units	K2
1.2	State laws that describe the behavior of ideal gases.	K3
1.3	State Faraday's laws	K3
1.4	State concentrations units	K2
1.5	Mention the first law of thermodynamics.	K2
1.6	List the factors affecting equilibrium position and equilibrium concentration.	K2
2	Skills :	
2.1	Summarize gases laws	S2
2.2	Compare between ideal and real gases	S3
2.3	Apply Hess's law for the calculation of heat of reaction.	S3
2.4	Apply Faraday's laws for calculating the amount deposited at electrodes	S3
2.5	Predict the spontaneity of chemical reaction.	S2
3	Competence:	
3.1	Manage resources, time and collaborate with members of the group.	C1
3.2	Ability to work independently to handle Chemicals and perform laboratory illustrations safely.	C1
3.3	Ability to communicate results of work to classmates.	C1
3...	Communicate effectively with his lecturer and colleagues	C1
	Use university library and web search engines for collecting information and search about different topics .	C1

C. Course Content

No	List of Topics	Contact Hours
1	Units of measurements; SI- units, intensive and extensive properties, uncertainty in measurements (precision and accuracy).	2
2	Significant figures: Rounding significant figures, Using significant figures in addition, subtraction, multiplication and divisions.	2
3	States of matter and measurement, molecules and molecular compounds.	2
4	Gases	4
5	The mole, simple quantitative calculations with chemical reactions.	4
6	Basics of chemical equilibrium.	4
7	Acids and bases.	4
8	Thermochemistry.	4
9	Electrochemistry	4



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	Knows International system of units	Lectures Scientific discussion	Quiz
1.2	State laws that describe the behavior of ideal gases.	Lectures Library visits Web-based study Library visits	Exam
1.3	State Faraday's laws	Lectures	Exam
1.4	State concentrations units	Lectures	Quiz
1.5	Mention the first law of thermodynamics.	Lectures Library visits Web-based study	Exam
1.6	List the factors affecting equilibrium position and equilibrium concentration.	Lectures Library visits	Exam
2.0	Skills		
2.1	Summarize gases laws	Lectures	Exam
2.2	Compare between ideal and real gases	Lectures Scientific discussion	Quiz
2.3	Apply Hess's law for the calculation of heat of reaction.	Lectures	Exam
2.4	Apply Faraday's laws for calculating the amount deposited at electrodes	Lectures Scientific discussion	Quiz
2.5	Predict the spontaneity of chemical reaction.	Lectures	Exam
3.0	Competence		
3.1	Manage resources, time and collaborate with members of the group.	Scientific discussion	long and short essays posters lab manuals
3.2	Ability to work independently to handle Chemicals and perform laboratory illustrations safely.	Scientific discussion	long and short essays
3.3	Ability to communicate results of work to classmates.	Scientific discussion	posters lab manuals
3.4	Communicate effectively with his lecturer and colleagues	Library visits	posters lab manuals
3.5	Use university library and web search engines for collecting information and search about different topics .	Library visits	long and short essays

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Class activities, Attendances and Duties	Throughout the Term	10%
2	Mid-Term Exam (s)	5-14	20%
3	Lab Activity and Final Exam on Lab	Throughout the Term	30%
4	Final Exam.(2 hours exam)	End of the Term	40%
5	Total	100%	

*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 : Office hours for Faculty member

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	<i>P. Atkins and J. de Paula</i> , Physical Chemistry, 10 th ed., 2006, New York.
Essential References Materials	Steven S. Zumdahl, Susan A. Zumdahl, 9 th ed., 2009, New York.
Electronic Materials	Power point lectures.
Other Learning Materials	Course available online

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms, 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)	None

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Program Leaders	Direct
Extent of achievement of course learning outcomes	Faculty	Indirect
Quality of learning resources	Faculty	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	

Received by: Dr. Ismail Althagafi

Department Head

Signature:



Date: 20/12/2019

