

ATTACHMENT 5.

Kingdom of Saudi Arabia
The National Commission for Academic Accreditation &
Assessment

T6. Course Specifications
(CS)

Course Specifications

Institution: King Khalid University	Date: 7/ 1437
College/Department: Medical Sciences/Chemistry	

A. Course Identification and General Information

1. Course title and code: General Chemistry for Health Sciences 110-Chem-2			
2. Credit hours: 2 (1+1)			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Healthy Sciences Program			
4. Name of faculty member responsible for the course: Dr/ Mohamed Mohamed Abdel-Aziz			
5. Level/year at which this course is offered: L2/Y1			
6. Pre-requisites for this course (if any): No			
7. Co-requisites for this course (if any): No			
8. Location if not on main campus: Academic Building at Mahalah			
9. Mode of Instruction (mark all that apply)			
a. traditional classroom	<input type="checkbox"/>	Yes	What percentage? <input type="text"/>
b. blended (traditional and online)	<input type="checkbox"/>	Yes	What percentage? <input type="text"/>
c. e-learning	<input type="checkbox"/>	Yes	What percentage? <input type="text"/>
d. correspondence	<input type="checkbox"/>		What percentage? <input type="text"/>
f. other	<input type="checkbox"/>		What percentage? <input type="text"/>
Comments:			

B Objectives

<p>1. What is the main purpose for this course?</p> <ul style="list-style-type: none"> - Teaching the students the general concepts of basic inorganic, physical and analytical chemistry such as: atomic structure, chemical bonding, periodic table, Intermolecular forces and chemical calculation.
<p>2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)</p> <ul style="list-style-type: none"> - Increasing the use of E-learning. - Providing more electronic materials in lectures. - Updating the course content based on problems that will arise in community. - Updating with the techniques that will be recently introduced in the field.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

1. Topics to be Covered:			
a) Theoretical	List of Topics	No. of Weeks	Contact hours
	Definition of some general chemistry - related terms	1	1
	History of atomic structure	1	1
	Quantum theory and electronic structure of atom	1	1
	Quantum numbers and Electronic configuration	1	1
	Periodic table and the Properties of Elements	1	1
	Midterm Exam 1	1	1
	Measuring Units	1	1
	Uncertainty in measurements	1	1
	Significant Figures	1	1
	Solving problems	1	1
	Midterm Exam 2	1	1
	Molecular Forces:	1	1
	Intramolecular forces & Chemical bonding		
	Intermolecular attractive forces (IMF)	1	1
	States of matter and phase change	1	1
	Phase diagram & Properties of liquids	1	1

List of Topics	No. of Weeks	Contact hours
b) Practical		
Safety and demonstration of using basic glassware and tools used in chemical analysis	1	2
Volumetric analysis	2	2
Titration of acids	1	2
Titration of bases	1	2
Titration of mixtures	1	2
Determination of total hardness of water	1	2
Oxidation reduction reactions	1	2
Titration of iron (Fe) with potassium permanganate	1	2
Determination of copper (Cu) by sodium thiosulphate	1	2
Determination of NaCl by silver nitrate	1	2
Final practical exam	1	2

2. Course components (total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory or Studio	Practical	Other:	Total
Contact Hours	13	-	-	22	-	35
Credit	13	-	-	11	-	24

3. Additional private study/learning hours expected for students per week.

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge: The students are able to		
1.1	Classify the different types and states of matter	- Theoretical lectures through traditional classroom. - Supplying lecturers and videos using E-learning (Bb)	- Two Midterm-Exams - Final Exam - Homework using Blackboard (Bb).
1.2	Define the chemical-related terms		
1.3	Determine the types of molecular forces		
1.4	Describe the electronic structure of atoms		
1.5	Clarify the different measuring units		
1.6	Demonstrate the different properties of elements of modern periodic table		

2.0	Cognitive Skills: The students are able to		
2.1	Differentiate between quantum and classical mechanics	Theoretical lectures through traditional classroom. - Supplying lecturers and videos using E-learning (Bb)	- Two Midterm-Exams - Final Exam - Homework using Blackboard (Bb).
2.2	Compare between intra-and intermolecular forces		
2.3	Apply the mathematical equations to solve problems		
2.4	Design the electronic structure of the atom		
3.0	Interpersonal Skills & Responsibility: The students are able to		
3.1	Share with their classmates to do as a team work	- Work constructively in a group - Discussing during lectures and practical lessons - Assigning the student to explain some lessons for his classmates	- Supervising students when working individually and in a group - Observing students how they participate during the discussion and working as a team
3.2	Tolerate the tasks that must be done		
3.3	Lead a group of students to conduct a specific task		
4.0	Communication, Information Technology, Numerical: The students are able to		
4.1	Communicate with their classmates and their teacher via different multimedia (Social media, E-mail, Course mail, ...etc)	- Theoretical lectures through traditional classroom. - Assigning the students to search via internet for gathering the scientific information	- Assignment via blackboard - Solving mathematical problems in Midterm and final exams
4.2	Use the computing technology to update and research the scientific information		
4.3	Calculate the required data from measured quantities		
	Solve the different mathematical problems related to course		
5.0	Psychomotor: The students are able to		
5.1	Handle the glassware and equipments	- Explanation of some common errors that related to chemical analysis in classroom and laboratory	- evaluation of handling the analytical tools via continuous observing and manual assessment - Final practical exam
5.2	Precisely measure the physical quantities using analytical tools		
5.3	Gain the sense, monitor the errors and detect the measuring bias in chemical analysis		

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)							
	1.1	1.2		2.1		3.2		4.1
1.1								
2.1								

6. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Handling in laboratory and reports	Continuous	10%
2	Midterm Exam I	7 th week	12.5%
3	Midterm Exam II	11 th week	12.5%
4	Theoretical Final Exam	16 th week	50%
5	Practical Final Exam	14 th week	15%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- Office hours: 10 hrs/week.

- Additionally, teachers are available at their offices for any inquiries from students and advice.

E Learning Resources

1. List Required Textbooks:

- Essential Chemistry, Atoms, Molecules and Compounds. Phillip Manning, Copyright © 2008 by Infobase Publishing.

- Essential of Chemistry. Søren Prip Beier & Peter Dybdahl Hede, Chemistry 2nd edition © 2010, VenlusbPublishing Aps, ISBN 978-87-7681-535-6.

2. List Essential References Materials (Journals, Reports, etc.):

Textbook of physical chemistry (Glasstone, S.)

3. List Recommended Textbooks and Reference Material (Journals, Reports, etc):

- Analytical chemistry, G.D. Christian 6th edition, John Wiley & Sons, 2003.

4. List Electronic Materials, Web Sites, Facebook, Twitter, etc.:

- <http://www.chem1.com/chemed/>

- <http://www.dac-euchems.org/reports/education/index.html>

- http://en.wikipedia.org/wiki/Analytical_chemistry

5. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

- CD containing course

Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) - One classroom equipped with 60 student seats. - One laboratory for general chemical analysis equipped with 30 student seats.
2. Computing resources (AV, data show, Smart Board, software, etc.) - One computer for teacher in the classroom. - Data show for power point presentation.
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching: - Confidential completion of course performance evaluation questionnaire.
2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department: - Discussion with other staff members. - Discussion with the students.
3 Processes for Improvement of Teaching: - Training courses on development of teaching performance. - Training courses on educational technology.
4 Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution): - Oral examination by external examiner. - Student exam papers exchange with other universities. - Student competition in a national level.

Name of Instructor: Dr/ Mohamed Mohamed Abdel-Aziz Mohamed

Signature: _____

Date Report Completed: 2nd Semester 1436/1437

Name of Field Experience Teaching Staff _____

Program Coordinator: _____

Signature: _____

Date Received: _____