Course Specification
(Bachelor)

Course Title:	General Chemistry Lab. (1)
Course Code:	CHEM103-1
Program:	Bachelor of Science in Chemistry
Department:	Department of Physical Sciences
College:	College of Science
Institution:	Jazan University
Version:	TP-153 (2024)
Last Revision Date:	1 February 2024

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: (2hrs)

2. Course type

A.	☐University	☒ College	☐ Department	☐Track	☐Others
B.	☒ Required		☐ Elective		

3. Level/year at which this course is offered: (2ed Level--- 1st Year.)

4. Course general Description:

Course title	Course code	Contact Hours			Credit Hours	Year	Level	Prerequisite	Corequisite
		Lec	Tut	Lab					
General Chemistry Lab. (1)	CHEM103-1	0	0	2	1	1st	2nd	-	CHEM102-3

This course aims to give the student acquires some laboratory skills in the qualitative analysis of simple inorganic salts (identifying acid and basic radicals), as well as conducting experiments related to simple chemical calculations to determine the properties of the material

5. Pre-requirements for this course (if any):

None

6. Co-requisites for this course (if any):

CHEM102-3

7. Course Main Objective(s):

1. Understand and practice safety rules in laboratories.
2. Training on the basic practical skills in chemistry and using of laboratory tools.
3. Qualitative analysis of simple inorganic salts.
4. Writing the reports of experiments in a correct scientific manner.
5. Investigate the basic radicals in mixtures of inorganic salts.
6. Measuring the properties of some liquid and solid materials.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	$(2 \times 15) = 30$	100%
2	E-learning		

No	Mode of Instruction	Contact Hours	Percentage
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	
2.	**Laboratory/Studio**	30
3.	**Field**	
4.	**Tutorial**	
5.	**Others (specify)**	
Total		....

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding;** *Upon completion of the course, students are able to:*			
1.1	**Recall the basic principles of general chemistry**	K1	*Self learning via pre-laboratory assignments require use of websites*	*Lab Report.*
1.2	**Making connection between the theoretical knowledge and experiments**	K2	*Self learning via pre-laboratory*	*Lab Report.*
2.0	**Skills;** *Upon completion of the course, students are able to:*			
2.1	Design and carry out qualitative experiments to identify different anion and cations of selected compounds (I)	S2	*Lab work, group work*	*Lab Report.*
2.2	Know and follow proper procedures and regulations for safe handling, use, and disposal of chemicals. (I)	S3	*Lab Discussion*	*Safety Exam.*

C. Course Content

No	List of Topics	Contact Hours
1.	Safety rules in laboratories	2
2.	Chemical analysis and its types and Naming inorganic chemical compounds	2
3.	Acidic radicals: dilute hydrochloric acid radicals group and concentrated sulfuric acid radicals group.	4
4.	The miscellaneous group and the general scheme for detecting acidic radicals	4
5.	Basic radicals: the groups from 1 to 3 of basic radicals,	2
6.	Basic radicals: the groups from 4 to 6 of basic radicals,	2
7.	The general scheme for detecting basic radicals	2
8.	Scheme for detecting basic radicals in mixtures of inorganic salts	2
9.	Titration of a strong acid with a strong base	2
10	Determination of the melting point, boiling point.	*2*
11	Determination density of some liquids and solids.	*2*
12	General Revision	*4*
Total		$2 \times 15w = 30$

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	*Periodic Exams*	*During Semester*	---
2.	*Assignments & Classroom Activities*	*During Semester*	*60%*
6.	*Final Exam (practical)*	*16-17*	*40%*
	Total		*100%*

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	1. د. أحمد عبد العزيز العويس، د. عبد العزيز إبراهيم الواصل، الكيمياء العامة العملية، دار الخريجي للنشر والتوزيع، المملكة العربية السعودية 1425هـ. 2. Chemical principles in the Laboratory with quantitative analysis, Slowiski, Wolsey, Masterton 6th ed., 1997 Brooks/Cole.

	3. Practical Experiments in Chemistry, Kim Gogarty, Col Harrison, Grahame Dobinson, 1st ed., Blake Education 2007. 4. General Chemistry with Qualitative Analysis. Kenneth W. Whitten, Raymond E. Davis M. Larry Peck. 6th Edition, 1999.
Supportive References	*None*
Electronic Materials	*None*
Other Learning Materials	*None*

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	laboratories,
Technology equipment (projector, smart board, software)	Smart board, Data show, Black board, internet
Other equipment (depending on the nature of the specialty)	none

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Student	Likert-type Survey CES) Indirect
Effectiveness of Students' assessment	Instructor & Course coordinator	Class room evaluation (direct & indirect
Quality of learning resources	Program coordinator	Indirect
The extent to which CLOs have been achieved	Assessment committee	Indirect
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewers, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	Chemistry Department Council
REFERENCE NO.	Meeting no.2
DATE	08 /08 /1445 Corresponding to 18 / 02 /2024