MUTAH UNIVERSITY
College of Science
Chemistry Department

Course Syllabus

Course Code	Course Name	Credits	Contact Hours
0303105	General Chemistry Laboratory (1)	1	2T

INSTRUCTOR/COORDINATOR	
Name	**Dr. Waleed Atef Manasreh**
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Office Hours	**https://academics.mutah.edu.jo/dr_waleed**
Classroom/Time	

TEXTBOOK	
Title	Manual for Principles of General Chemistry
Author/Year/Edition	J.A. Beran, 2014, 10th edition.
Other Supplemental Materials	
Title	
Author/Year/Edition	

SPECIFIC COURSE INFORMATION

A. Brief Description of the Content of the Course (Catalog Description)

This Lab include experiments that cover:

1. General safety in the laboratory
2. Identification and use of laboratory equipment and tools
3. Experiments containing chemical calculations
4. Descriptions of the elements in the periodic table
5. bases
6. acids
7. oxidation and reduction

B. Pre-requisites (P) or Co-requisites (C)

General Chemistry (1) (0303101) **(P)**

C. Course Type (Required or Elective)

Required

SPECIFIC GOALS
A. Course Learning Objectives (CLOs)
Students will gain the ability to: **CLO1**: Conduct common laboratory techniques including pH measurement, acid/base titrations, UV/Visible spectroscopy in both emission and absorption mode, calorimetry, and calorimetry [6]. **CLO2**: Implementing the techniques mentioned above to solve chemical problems [6]. **CLO3**: Carry out self-directed experiments [6]. **CLO4**: Work in a Team to conduct practical laboratory experiments [5]. **CLO5**: Communicating experiment results [3]**.**
B. Student Learning Outcomes (SOs) Addressed by the Course

1	2	3	4	5	6	7
		√		√	√	

BRIEF LIST OF TOPICS TO BE COVERED		
List of Topics	**No. of Weeks**	**Contact Hours**
General safety in the laboratory	1	2
Identification and use of laboratory equipment and tools	1	2
Physical Identification of Compounds	1	2
Chemical Identification of Compounds	2	4
Determination of Water content	1	2
Limiting Reactant	1	2
Periodic Table and its Laws	1	2
Substitution Reactions	2	4
Oxidation and Reduction Reactions	1	2
Acids and Bases	1	2
Volumetric Analysis	1	2
Copper Chemistry	1	2
Final Exam	-	-
Total	14	28

EVALUATION		
Assessment Tool	**Due Date**	**Weight (%)**
Mid Exam	According to the university calendar	30
Course Work (Homeworks, Quizzes, Projects, …etc.)	One week after being assigned	20
Final Exam	According to the university calendar	50

ABET's Students Learning Outcomes (Criterion #6)		
	Relationship to program outcomes	
ABET 1-7		**… Engineering Student Outcomes**
1.		an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2.		an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic
3.	√	ability to communicate effectively with a range of audiences
4.		an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5.	√	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6.	√	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7.		an ability to acquire and apply new knowledge as needed, using appropriate learning strategies