MUTAH UNIVERSITY
College of Science
Chemistry Department

Course Syllabus

Course Code	Course Name	Credits	Contact Hours
0303101	General Chemistry (1)	3	3 T

INSTRUCTOR/COORDINATOR	
Name	**Dr. Waleed Atef Manasreh**
Email	**dr_waleed@mutah.edu.jo**
Website	**https://academics.mutah.edu.jo/dr_waleed**

TEXTBOOK	
Title	Chemistry
Author/Year/Edition	Steven S. Zumdahl and Susan A. Zumdahl, 7th edition, Houghton Mifflin Company Boston, New York, 2007
Other Supplemental Materials	
Title	
Author/Year/Edition	

SPECIFIC COURSE INFORMATION

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

This course is intended to illustrate the basic principles of chemistry including atomic and molecular weights, stoichiometry, the mole concept, atomic properties and electronic structures, balancing chemical equation, oxidation-reduction, metathesis reactions, acid and bases, types of chemical bonding including hybridization and molecular structures.

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

None

C. Course Type (Required or Elective)

Required

SPECIFIC GOALS

A. Specific Outcomes of Instruction

The student must be able to:

CLO1: Distinguish between the physical and chemical properties of matter [1].

CLO2: Perform mathematical operations involving significant figures [1].
CLO3: Describe the arrangement of the periodic table [1].
CLO4: Identify and write electron configurations [1].
CLO5: Draw Lewis structures for molecules [1].
CLO6: Name ionic and covalent compounds using the rules for nomenclature of inorganic compounds.
CLO7: Perform stoichiometric calculations [1].
CLO8: Use the Ideal Gas Law to calculate properties of gases [1].
CLO9: Calculate enthalpy change for a given process, and explain the relationship between enthalpy change and the tendency for reactions to occur [1].
CLO10: Conduct pH calculations and use the pH scale to classify solutions as acidic, basic, or neutral;
CLO11: Write and balance oxidation-reduction reactions [1].
CLO12: Distinguish different types of nuclear decay [1].

B. Student 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
Matter and Measurements	2	6
The Atom	2	6
Bonding	2	6
Chemical Formulas and Equations	2	6
States of Matter	1	3
Thermochemistry and Thermodynamics	2	6
Acid-Base and Oxidation-Reduction Reactions	2	6
Nuclear Chemistry	1	3
Total	14	42

EVALUATION

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

ABET's Students Learning Outcomes (Criterion # 3)

	Relationship to program outcomes	
ABET 1-7		**Electrical 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