NEAR EAST UNIVERSITY – COMMON COURSES COORDINATION UNIT

Department of Chemistry

Course Information Sheet & Course Outline

2021-2022 Fall Semester

Course Code	**Course Name**	**Credit**	**ECTS**
CHM104	GENERAL CHEMISTRY FOR BIOLOGICAL SCIENCES AND ENGINEERING	4	5

Pre-requisite: None

Language: English	**Course Type: Compulsory**	**Year: 2021-2022**	**Semester: Fall**

Weekly Hours	**Class Hours**	**Laboratory**	**Practicum**	**Learning Sessions**			
				PS	**C**	**R**	**T**
	3	2	0	0	2	2	1

Course Lecturer/ Coordinator	Dr. Chidi Wilson NWEKWO/ Assist. Prof. Dr. Süleyman AŞIR	Office Hours: Mon-**11am**, Tue-**12pm** Thur-**12pm** Fri-**12pm**
	E-mail address Chidiwilson.nwekwo@neu.edu.tr	Online Office Hour Link: Wed - **12pm to 1pm** https://meet.google.com/ssv-qnph-ezh

Learning Outcomes	After the completion of this course, the student will be able to ► Predict physical and chemical properties of compounds based on chemical bonding, geometry and intermolecular interactions. ► Identify and apply recent knowledge, and analyse and solve problems in the life sciences, and understand the relationship between the life sciences, chemistry and engineering. ► Comprehend and be able to apply chemical facts, concepts, and models, and be able to excel in qualitative and quantitative problem solving. ► Recognize the need for lifelong learning.
Course Description	This course is designed as a one-semester course for freshman molecular biology and genetics, food, biomedical and bioengineering students.
Course Objectives	Students who successfully complete this course will be able to: **1.** Understand and realize the integration of chemistry in life sciences and engineering. **2.** Function effectively in a medically and biologically oriented problem-solving environment. **3.** Develop scientific inquiry, complexity, critical thinking, mathematical and quantitative reasoning. **4.** Formulate meaningful conclusions according to scientific inquiry by collecting, analyzing, summarizing and interpreting laboratory data.

Textbooks and/or References		
	1	Chemistry Principles and Reactions (7th edition, 2012) by William L. Masterton and Cecile N. Hurley, Brooks/Cole Cengage Learning (Lecture notes)
	2	CHM104 Lab Manual
	3	Cengage Learning Centre, UZEM System, and non-virtual alternative assessment tools

Course Content	A basic course with emphasizing the metric system. Introduction to atomic theory, stoichiometry. The structural and physical properties of matter. Periodic relationship among elements and periodic table. Gaseous state. Thermochemistry. Energy and enthalpy. Electronic structure of atoms. Electrochemistry. Chemical bonding.
Methods and Techniques Used in the Course	• The traditional (face-to-face) learning majorly and an interactive E-learning method • Using the MindTap package On the Cengage Learning platform

WEEKLY OUTLINE

Week	Date	Topic	Activities	Reference
1	20-24 Sep	**Introduction to the Course**		
2	27 Sep-1 Oct	Matter and Measurements	Face to face class	1,3
3	4-8 Oct	Matter and Measurements	Face to face class	1,3
4	11-15 Oct	Atoms, Molecules and Ions	Face to face class with Quiz 1	1,3
5	**18**-22 Oct	Atoms, Molecules and Ions	Face to face class	1,3
6	25-**29** Oct	Electronic Structure and the Periodic Table	Face to face class with Quiz 2	1,2,3
7	1-5 Nov	Covalent Bonding	Face to face class	1,3
8	**8-12 Nov**		**Midterm Exam Week**	
9	**15**-19 Nov	Covalent Bonding	Face to face class with Quiz 3	1,2,3
10	22-26 Nov	Mass Relations in Chemistry: Stoichiometry	Face to face class	1,3
11	29Nov-3Dec	Mass Relations in Chemistry: Stoichiometry	Face to face class with Quiz 4	1,3
12	6-10 Dec	Gases	Face to face class	1,2,3
13	13-17 Dec	Gases and Thermochemistry	Face to face class with Quiz 5	1,3
14	20-24 Dec	Thermochemistry	Face to face class	1,3
15	27-31 Dec	Covalent Bonding	Face to face class with Quiz 6	1,3
16	**3-12 Dec**	**Final Exam Week**		

Attendance: Minimum 70 %

Assessment Breakdown		**Type**	**%**	**Reference/ Source**	**Relevant Competencies**
	1	Lab	10	2	
	2	6 Quizzes (Midterm)	30	3	
	3	Final	40	-	
	4	Attendance	10	-	

Learning Program					
Educational Tool	**Amount**	**Student Work Load (Hours)**	**Educational Tool**	**Amount**	**Student Work Load(Hours)**
Course Duration	14	14*3=39			
Study Hours	14	14*3=39			
Lab	3	3*1=3			
Quizz(es)	6	6*2=12			
Preparation for quizz(es)	6	6*6=36			
Final exam	1	1*2=2			
Final exam (Study hours)	1	1*12=12			
			Total	143	
		Recommended ECTS Credit (Total Hours / 30):		**143/30 = ~ 5**	