MARMARA UNIVERSITY - FACULTY OF ENGINEERING

2017-2018 Fall

CHEM1007 Basic Chemistry

COURSE DESCRIPTION FORM

Offering Department	Department of Computer Engineering		Undergraduate must course
Course Code	CHEM1007		
Course Name	Basic Chemistry		
Language of Instruction	English		
ECTS	6		
Contact Hours	Theoretical (T): 4	Practice (U): 0	Laboratory(L): 0
Pre-requisites			
Instructor	**Name**	Uğur ÖZVEREN	
	E-mail	ugur.ozveren@marmara.edu.tr	
Course Materials	**Mandatory**	Chemical principles. Third edition. Dickerson, Richard E. and Gray, Harry B. and Haight, Gilbert P. (https://authors.library.caltech.edu/25050/)	
	Recommended	General chemistry, Principles and Modern Application, R.H.Petrucci and W.S.Harwood	
Course Objectives	Gaining basic knowledge about general chemistry		
Course Content	Atom, Molecules and Ions. Chemical formulas and equations. Electronic Structure of the Atom. Chemical Bonds. Periodic Table and Elements. Gases. Liquids. Solids. Solutions and Resolution. Acids and Bases. Ionic Balance. Reactions in Solutions. Oxidation and Reduction.		
Learning Outcomes	**LO1**	Know the general properties of solids and liquids.	
	LO2	Define chemical bonds and types.	
	LO3	Explain the composition of gases by expressing gas laws.	
	LO4	Write reaction equations by expressing periodic properties of elements.	
	LO5	Know the structure and models of the atom.	

Program Outcomes	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**LO6**
PO1 Sufficient knowledge of mathematics, science (a) and computer engineering (b) (1); ability to use theoretical and practical knowledge in these areas in complex engineering problems (2).	1a	1a	1a	1a	1a	

	No	**Week**	**Subjects**
Subjects (Knowledge, Skills and Behaviours), Contributions of Subjects to Learning Outcomes, Assessment Methods	**K1**	1	Importance of Chemistry in Computer Engineering
	K2	2	Chemistry and Elements
	K3	3	Chemical Formulas and Equations
	K4	4	Electron Structure of the Atom
	K5	5	Chemical Bonding
	K6	6	Solid, Liquid and Gases
	K7	7	Solution and resolution
	K8	8-9	Chemical Kinetics
	K9	10	Acid Base Balance
	K10	11	Ion Balance
	K11	12-13	Reactions in Solutions
	K12	14	Oxidation and Reduction

Assessment Methods and Weights	**No**	**Type**	**Weight**	**Implementation Rule**	**Make-up Rule**
	MF	Midterm-Final	100%	There will be a midterm and a final exam. Exams will be closed books and notes. Calculators are allowed.	When a medical report or letter of appointment in accordance with the university procedure is submitted, a make-up exam is given for a maximum of one midterm exam. The make-up exam for the final exam is given in the make-up exam week.
	Q	Quiz	-		.
	H	Homeworks			
	P	Projects	-	-	
	R	Reports			
	S	Presentation			
	P	Participation / Interaction			
	L	Class/ Laboratory/ Field Work			
	O	Others			
	TOTAL		100%		

Determining Letter Grades

• The letter grades will be determined based on a midterm exam and a final exam.
• In order to pass the course, the final score and the total average score of the student must be at least 50.

Assessment	Midterm	Final	TOTAL
Weight	60	40	100

Teaching Method, Student Work Load

Time Applied by the Instructor

No	Method	Explanation	Hours
1	Lectures	Course topics are discussed by writing on the board. Sample questions are solved during the lesson to reinforce learning. The first midterm exam is held in the examination week and the second midterm is held in the classroom in lecture-hour.	14*4=56
2	Problem Session/ Practice	Problems related to the course topics are solved on the board.	
3	Laboratory	Experiments are done in the laboratory or theoretical concepts covered during the lectures are practiced using computer exercises.	
4	Interactive Courses	Questions are asked to students during lectures and they are encouraged to guess the answers (peer learning is also in this category)	
5	Field Work	Students attend activities outside the campus.	
6	Midterm	Midterm exam is given during the midterm week.	2
7	Final	Final exam is given during the final exam week.	2

Estimated Time to be Allocated by a Student

8	Projects	The students carry out research about the problem given in the project, design and implement their solution and prepare a report.	
9	Homeworks	The students solve the problems given as homework.	
10	Pre-class learning of Course Material	The students study and learn the new subjects from course materials.	14*5=70
11	Review of Course Material	Students review the course subjects from course materials to prepare for the exams and homeworks.	
12	Office Hour	Students ask questions to the instructor or the assistant during office hours.	14*2=28
TOTAL			158

Academic Honesty

Violations of scholastic honesty include, but are not limited to cheating, plagiarizing, fabricating information or citations, facilitating acts of dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students.

In case academic dishonesty is observed, the first authority is the instructor of the course. The instructor may decide to give the student zero for the homework(s)/lab(s)/exam(s), give the letter grade FF, or may take disciplinary action.