Faculty of Engineering & Technology

Chemistry 1

Information :

Course Code :	CHM 151	**Level :**	Undergraduate	**Course Hours :**	2.00- Hours

Department : Faculty of Engineering & Technology

Instructor Information :

Title	Name	Office hours
Lecturer	Aya Hanfay Reda Hanfy Mohamed	40
Teaching Assistant	Ahmed Abdelfattah Abdelaziz Abdelfattah	16
Teaching Assistant	Mohamed Osama Mohamed Abbas	

Area Of Study :

By the end of the course the students will be able to:
ÅEstablishing a scientific base for the students in the field of Engineering Chemistry.
ÅProviding the student with knowledge about the effect of the environment.
ÅKnow the relation between the medium and the material.
ÅAcquiring scientific bases which qualify the student to control dominate and protect the used material.
ÅEnabling the student to solve industrial problems in a scientific method.
ÅStudying the main problems of water pollution.
ÅStudying the general idea about construction materials and cement chemistry.
ÅKnowing the chemistry of Environmental pollution.

Description :

Gases, Mass balance and heat balance in combustion processes of fuels, Solutions, Dynamic equilibrium in physical and chemical processes, Electrochemistry and corrosion, Water treatment , Building materials, Environmental engineering Selected chemical industries : fertilizers, dyes, polymers, sugar, petrochemicals, semi-conductors, Oil and fats, Industrial systems.

Course outcomes :

a.Knowledge and Understanding: :	
1 -	a1- Define Gasses.
2 -	- Define the Properties of Liquids and Solids.
3 -	- Define the Thermo-chemistry and Thermodynamics.
4 -	- Define Electrochemistry and Corrosion of Metals.
5 -	- Define Water and its Treatment.
6 -	- Define the Chemistry of Polymers and Fuel Combustion.
7 -	- Define all types of solutions and their properties.
b.Intellectual Skills: :	
1 -	- Establish a scientific base for the students in the field of Engineering Chemistry.

2 -	- Provide the student with knowledge about the effect of the environment on the material.
3 -	- Solve industrial problems in a scientific method.
4 -	Study the main problems of water pollution.
5 -	- Study the construction materials and cement chemistry.
c.Professional and Practical Skills: :	
1 -	- Apply knowledge of chemistry with the different engineering fields.
2 -	- Fix the knowledge of Chemistry to solve engineering problems.
d.General and Transferable Skills: :	
1 -	d1- Work effectively in a team.
2 -	d2- Develop the skills which are related to creative thinking, problem solver, and teamwork in different fields.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Gasses State	8	4	4
The Properties of Liquids and Solids	8	4	4
Thermo-chemistry and Thermodynamics	12	6	6
Electrochemistry and Corrosion of Metals	8	4	4
Water and its Treatment	4	2	2
Chemistry of Cement	4	2	2
Polymers Chemistry	4	2	2
Fuel Combustion	4	2	2
Solutions and their properties	8	4	4

Teaching And Learning Methodologies :

- ÅLectures
- ÅTutorial
- ÅClass discussions and activities
- ÅHomework and self-study

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Assignments and quizzes	10.00	3	Assignment 1 ï 4
Attendance and Participation	5.00	1	
Final-term Exam	40.00	16	Written Exam
First Exam	20.00	6	Written Exam
Second Exam	20.00	9	Written Exam
Student Project	5.00	13	

Course Notes :
Course notes and Handouts

Recommended books :
Bardy and Holum, " The Study of Matter and Its Changes ", 4th Edition, 2005.