



## Level Two

### General Chemistry (2)

Course Code	Course Num.	Course Name	Credit Hours	Lec	Lab	Tut	Prerequisites
CHE	102	General Chemistry (2)	4	3	2	1	CHE 101

#### **Objectives:**

The objective of this course is to familiarize the student with the basic principles and concepts of Inorganic Chemistry and organic chemistry.

#### **Syllabus:**

- Chemical bonding: Lewis Dot Symbols, Ionic Bond, Covalent Bond, Lattice Energy, Writing Lewis Structure, Resonance, Octet Rule, Bond Enthalpy.
- Intermolecular Forces: Intermolecular forces, Properties of liquids, Bonding solids, Phase changes, Phase diagrams.
- Physical properties of solutions: Type of solutions, A molecular view of the solution Process, Concentration Units, Effect of temperatures on solubility, Effect of pressure on the solubility, of gases, Colligative properties.
- Redox reactions & Electrochemistry: Redox reactions, Galvanic Cells, Standard Reduction Potential, Effect of Concentration on Cell Emf, Batteries, Corrosion, Electrolysis, Electrometallurgy.
- Introduction to Organic Chemistry: Classes of Organic Compounds, Aliphatic Hydrocarbons, Aromatic Hydrocarbons, Chemistry of functional groups, Chirality.
- Nuclear Chemistry: Nature of nuclear reactions,

#### **References:**

- General Chemistry, The essential Concepts Fifth Edition, Raymond CHANG, McGraw Hill international Edition 2008.
- Chemistry Ninth Edition, Raymond CHANG, Williams College McGraw Hill, Higher Education
- Fundamentals of Chemistry, Fifth Edition, Goldberg, McGraw Hill international Edition.

