



General Chemistry (2)

Course Code	Course Num.	Course Name	Credit Hours	Lec.	Lab.	Tut.	Prerequisites
CHM	102	General Chemistry (2)	4	2	2	2	

Objective:

- To familiarize students with basic knowledge of chemistry needed for higher level courses.
- To improve the students' understanding of the properties of substances in the light of trends in the properties of elements across the periodic table.
- To develop the students' appreciation of chemistry as an experimental science supported by theory as an interpretive and predictive tool.
- To create an awareness of the relevance of chemistry to other areas of industrial importance, biological systems and environmental issues among the students'.

Syllabus

Thermodynamics, Chemical bonding., chemical equilibrium., acid and Base.

Electrochemistry.

Entropy, free energy and equilibrium: Spontaneous reactions, Entropy, State function, Entropy change of a system, Gibbs free energy, phase transition, Gibbs free energy and chemical equilibrium.

Organic Chemistry: Classification of hydrocarbon, Alkanes, Alkanes nomenclature, Alkanes reactions, Alkenes, aromatic hydrocarbons.

Nuclear Chemistry: Balancing nuclear equations, Nuclear stability and radioactive decay, Nuclear bonding energy, Kinetics of radioactive decay, Nuclear transmutation, Nuclear fission.

Intermolecular Force and Liquids: Liquids and Solids , Intermolecular Forces, Properties of Liquids, Crystal Structure, X-Ray Diffraction by Crystals, Types of Crystals, Amorphous Solids, Phase Changes

Textbook:

Chemistry, Raymond CHANG, Mc Graw Hill, 10th Edition, ISBN 978-0-07-351109-2

References:

1. **Chemistry**, 7th Edition; Steven S. Zumdahl, Susan A. Zumdahl, Houghton Mifflin. J. A. Beran, 2006.
2. **Chemistry: Principles and Reactions**; 5th Edition, William L. Masterton, Cecile N. Hurley, Hardcover: 756 pages, Publisher: Brooks Cole, 2003.

