

CT 1101**General Chemistry****3 credits**

The basic study of Basic Chemistry such as conservation and change; the nuclear atom; atomic energy level; atomic models and chemical reactions; the chemical elements; gases-equations of state; molecular energies-classical theory; molecular energy levels-quantum theory entropy, chemical bonds-angles, frequencies, distances, energies, polarities; chemical bonding in terms of atomic orbitals; ionic substances and metals; chemical bonding delocalized electrons.

CT 1102**General Chemistry Laboratory****1 credit****Prerequisite or Corequisite:** CT 1101 General Chemistry

To give the students understanding and practical skills working with chemical laboratory equipment and techniques such as PH measurement, chemical compound identification etc.

CT 1201**Physics****3 credits**

To gain an understanding of the following topics in Basic Physics; Mechanics, Electricity and Magnetism, Thermodynamics and Statistical Physics, Atomic and Molecular Physics, Nuclear Physics, Basic Study of the physical properties of gases, liquids, solid state and amorphous materials, polymers.

CT 1202**Physics Laboratory****1 credit****Prerequisite or Corequisite:** CT 1201 Physics

To give students practical skills working with physical laboratory equipment including Mechanics (velocity, acceleration, Newton's Laws, Dynamic Laws), Electricity and Magnetism (measurement techniques), Thermodynamics and Statistical Physics (gases heat transfer). Introduction to the basic spectroscopy techniques used for investigation of gases, liquids and solid state materials.