

CHM 203 Physical Chemistry I 2 + 1 +0 (3 Credits)

Pre-requisite CHM 101

Kinetic theory of gases; Behaviour of gases ; The law of thermodynamics; Entropy and free energy, reaction and phase equilibria, chemical kinetics- Factors affecting the rates of chemical reactions. Rate laws. Order of reaction and molecularity of elementary processes. Relationship of order to mechanism. Rate equation for zero, first and second order reactions. Half lives. Experimental investigation of reaction rates. Sampling and physical methods of following reactions. Determination of order. Effect of temperature on reaction rate. The Arrhenius equation. Presentation of collision and transition state theories. Catalysis, simultaneous reactions, opposing, consecutive, side and chain reactions; Mechanism and theories of elementary processes; Photochemical reaction; basic electrochemistry.