

**520\* BCH: Mechanisms of Enzyme Action**

**(3+1) credit-hours.**

**General introduction. Theories of enzyme action. Forms of enzyme mechanisms (single and double-displacement mechanisms, substituted enzymes and ternary complexes, steady-state kinetics and analysis of two substrate formal mechanisms). The particulars of enzyme mechanisms (rate and equilibrium constants from steady state velocity and equilibrium studies, the direction of electron displacement, substrate analogues, thermodynamic and activation parameters, identification of specific groups, use of pH variation and group-specific reagents). Control of metabolism at the enzyme level (regulatory enzymes and sigmoid kinetics, coupled and cyclic systems). Regulation of enzymatic activity in the body. Mechanism of action of some individual enzymes.**