

# BIOCHEMISTRY (BCHM)

---

**BCHM 450 Medical Biochemistry 3 Credit Hour(s)**

**Prerequisite:** BIOL 415 (may be taken concurrently) or CHEM 302 (may be taken concurrently)

This lecture course covers aspects of biochemistry relevant to the practice of medicine. The human body is surveyed as an integrated chemical system with emphasis on the molecular basis of disease and the clinical application of therapies to restore body function. The link between biochemistry and human anatomy and physiology is examined with special emphasis on the gastrointestinal tract and catabolism, the immune response and biochemical endocrinology, blood and hemostasis, lipid metabolism and liver function, and glucose metabolism and muscle contractions.

**Note:** 3 hours lecture

**Offered:** Resident

**BCHM 451 Biochemistry I 4 Credit Hour(s)**

**Prerequisite:** BIOL 415 or (CHEM 302 and CHEM 321)

Advanced topics in biochemistry. Emphasis is placed on: 1) physical biochemistry including thermodynamics, kinetics, solutions and equilibria; 2) protein structure/function and enzyme kinetics, mechanisms and regulation; and 3) intermediary metabolism and its regulation.

**Note:** 3 hours lecture; 3 hours lab

**Offered:** Resident

**BCHM 452 Biochemistry II 4 Credit Hour(s)**

**Prerequisite:** BCHM 451

Continuation of BCHM 451 (Biochemistry I). Emphasis is placed on: 1) membrane physiology, including lipid biosynthesis, membrane transport, excitable membranes, electron transport and oxidative phosphorylation, and photosynthesis; and 2) the flow of biological information, including nucleotide biosynthesis, DNA replication and repair, transcription, and translation.

**Note:** 3 hours lecture; 3 hours lab

**Offered:** Resident

**BCHM 455 Biochemical and Molecular Techniques 3 Credit Hour(s)**

**Prerequisite:** BIOL 415

This course covers the basic molecular biological techniques involved in the study of DNA, RNA, and proteins. Specific techniques include: PCR; DNA cloning; library screening; proteomics and the use of gene sequence databases; and molecular modeling.

**Offered:** Resident

**BCHM 495 Directed Research 1-3 Credit Hour(s)**

**Offered:** Resident

**BCHM 497 Special Topics in Biochemistry 1-3 Credit Hour(s)**

**Offered:** Resident