

## DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY

*Phillip H. Pekala, Interim Chairperson*

### BIOC: Biochemistry

**7300. Medical Biochemistry (6)** P: General chemistry; organic chemistry; general biology; calculus; consent of chair. Emphasis on human biochemistry in chemistry and function of enzymes and other proteins; mechanisms of energy transduction; metabolism of carbohydrates, lipids, amino acids, and proteins; biochemistry of gene and gene expression; tissues and organ metabolism; regulation of metabolism; biochemical aspects of nutrition; and metabolism of abnormal cells.

**7301. Biochemistry I\* (4)** P: General chemistry; organic chemistry; consent of chair. Explores relationship of structure, chemical, and physical properties of biomolecules to their biological function. Includes introduction to intermediary metabolism and role of thermodynamics and kinetics in biological systems.

**7310. Molecular Biochemistry\* (3)** P: General chemistry; organic chemistry; general biology; consent of chair. Replication, translation, and expression of genetic information and its regulation.

**7330. Introduction to Research (1-6)** May be repeated. May count a maximum of 12 s.h. P: Consent of instructor. Assignment to faculty preceptor. May work with more than one preceptor. Design experimental protocols and collaborate in some aspect of the preceptor's research program.

**7335. Seminar in Biochemistry\* (1)** Registration for fall and spring semesters required. P: Consent of chair. Formal seminars and student critiques of current literature in biochemistry, concentrating on one topic each semester.

**7345. Cell Motility (2)** P: General chemistry, organic chemistry, general biology, and general physics; or consent of instructor. Multidisciplinary exploration of mechanism, structure, and function of motile systems essential for eukaryotic life.

**7355. Current Topics (1-3)** May be repeated with change of topic. P: Consent of chair. Topics of current importance not covered thoroughly in other courses. Lectures, special reports, or lab work.

**8305. Physical Biochemistry (2)** P: BIOC 7301; calculus; consent of chair. Applies thermodynamics and kinetics to biochemical systems.

**8320. Biochemistry II\* (4)** P: BIOC 7301 and consent of chair. Regulation of metabolism of carbohydrates, lipids, nucleic acids, and amino acids. Focuses on integration of metabolism and its regulations in humans.

**8333, 8336. Research (3,6)** May be repeated. P: Consent of chair. Design of experimental protocols and participation in preceptor's research program.

**9000. Dissertation\* (3)** May be repeated. May count for a maximum of 18 s.h.

**9001. Dissertation: Summer Research (1)** May be repeated. No credit may count toward degree. Students conducting dissertation research may only register for this course during the summer.