Colby

# BIOCHEMISTRY

*In the Departments of Biology and Chemistry.*

Courses described in this section are cross-listed in "Biology" and "Chemistry." Each department offers a concentration in cell and molecular biology/biochemistry.

## Course Offerings

**BC176j Exercise Physiology** An introduction to the metabolic responses of the human body to exercise, including biochemical and physiological changes in the major support systems (such as cardiovascular, respiratory, and muscular systems) in cooperation with energy production. Other topics include nutrition and ergogenic aids. Students are expected to be active participants in lab, which will include measuring parameters involved in athletic performance. Students with prior credit for Biology 275, 362, or 367 may not receive credit for Biochemistry 176. *Prerequisite:* Biology 163 or Chemistry 112, 118, or 141. *Three credit hours.* **N,Lb** BEVIER, KLINKERCH, MILLARD

**BC264j Pills, Potions, and Poisons** Natural products have a long history of use as medicines and poisons. A survey of the use and abuse of some of these compounds with respect to their mode of action, including aspects of pharmacology and toxicology. Students will also be introduced to basic concepts of microbiology, immunology, anatomy, and biochemistry. Of particular interest to those interested in a career in medicine, both clinical and research. Previously offered as Biochemistry 297 (January 2012). *Prerequisite:* Biology 163 or Chemistry 141. *Three credit hours.* **N** ANTONIELLO

**BC362f Medical Biochemistry** Introduction to the fundamental principles of biochemistry. Course content and format are designed for students intending to proceed to health professional school. Lecture topics include amino acids and proteins; enzyme kinetics, mechanisms, and inhibition; lipid and carbohydrate structure and function; and the organization and functions of the major human metabolic pathways. Discussions include clinical case studies and other applications of biochemistry on human health. Students may not receive credit for both this course and Biochemistry 367, Biology 368, or Chemistry 368. Lecture only. *Prerequisite:* Biology 163 and Chemistry 242. *Four credit hours.* MILLARD

**BC367f Biochemistry of the Cell I** Introduction to biochemical processes. Topics include the structure and function of the major classes of biological molecules (proteins, carbohydrates, nucleic acids, and lipids). Lectures, homework, and discussion focus on content-related problem-solving, critical-thinking, and communication skills. The optional laboratory introduces the fundamental biochemical techniques such as protein purification, enzyme and protein assays, gel electrophoresis, and PCR. Students may not receive credit for both Biochemistry 362 and 367. *Prerequisite:* Junior or senior standing, Chemistry 242, and Biology 163. *Four or five credit hours.* RICE

**BC378s Molecular Biology** An examination of how organisms maintain and express genetic information. Emphasis on well-characterized model systems in plants and animals. Topics include nuclear and organellar genomes, regulation of gene expression by developmental and environmental stimuli, and production of transgenic organisms. Lecture and laboratory. *Prerequisite:* Junior or senior standing, Biology 279, and Chemistry 141 and 142, or 145. *Four credit hours.* JOHNSON

**BC491f, 492s Independent Study** *One to four credit hours.* FACULTY