
BIOCHEMISTRY

In the Departments of Biology and of 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

[BC176] Exercise Physiology Designed for those who are interested in the science of exercise and fitness. Topics include how the human body and its systems respond and adapt to exercise, factors that affect athletic performance, and basic principles of nutrition. Students participate in assessment activities to develop a personal wellness plan. Fulfills the laboratory science requirement. Students with prior credit for Biology 265, 362, or 367 cannot receive credit for Biochemistry 176. (During Jan Plan Selection, select only your preferred lab as one of your four choices. Students who are confirmed in the course will automatically be registered for the lecture after Jan Plan Selection closes.) *Prerequisite:* Any 100-level college biology or chemistry course. *Three credit hours.* **N, Lb.**

BC362fs 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 or 368. Lecture only. *Prerequisite:* Biology 163 or Biology 164 and Chemistry 242. *Four credit hours.* MILLARD, PECK

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 PCR, enzyme and protein assays, and gel electrophoresis. 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

BC368s Biochemistry of the Cell II Advanced study of biochemical processes. Topics include the generation and use of metabolic energy, the integrated control of cellular functions, mechanisms of transport, and cellular communication. Lectures, homework, and discussion focus on content-related problem-solving, critical-thinking, and communication skills. The optional laboratory expands student expertise in fundamental biochemical techniques such as protein purification, enzyme and protein assays, gel electrophoresis, and computer modeling. Students may not receive credit for both Biochemistry 362 and 368. *Prerequisite:* Biochemistry 367. Biochemistry 367 laboratory is prerequisite to Biochemistry 368 laboratory. *Four or five credit hours.* MILLARD

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 with lab, and Chemistry 122, 142, or 147. *Four credit hours.* VAN OERS

BC491f, 492s Independent Study Individual projects in areas where the student has demonstrated the interest and competence necessary for independent work. *Prerequisite:* Permission of the instructor. *One to four credit hours.* FACULTY