

Biochemistry majors gain knowledge of biochemical and chemical analysis, synthesis, and theory while acquiring competence in laboratory techniques, the use of chemical instrumentation, computer skills, written and oral communication, and effective use of the professional literature.

THE PROGRAM

The Department of Chemistry offers a biochemistry major that provides a learning environment for students to engage in the study of empirical principles; to develop analytical and problem-solving skills; to acquire the laboratory skills necessary to design, perform, and evaluate experiments; and to become skilled at organization, evaluation, and presentation of the concepts of biochemistry and chemistry. The program accommodates chemistry and other science majors, pre-med/pre-vet students and students planning to pursue health and allied health professions, as well as students wishing to teach biochemistry at the secondary level.

THE MAJOR

Students majoring in biochemistry are required to complete a minimum of 64 hours in specified coursework in addition to the fulfillment of the general studies requirements. All of the biochemistry and chemistry courses are taught by experienced faculty members with diverse backgrounds who stress critical thinking and a liberal arts perspective. Students gain knowledge of chemical analysis, synthesis, and theory while acquiring competence in laboratory techniques, the use of chemical instrumentation, computer skills, written and oral communication, and effective use of the professional literature. Students are encouraged to approach the chemical sciences from quantitative, descriptive and historical perspectives, to experience them within the context of the physical and life sciences, and to make connections to the world around them.

THE COURSES

Classes at VWU are small and interactive. Required courses in the major include: Introductory Chemistry, Inorganic Chemistry, Analytical Chemistry, Organic Chemistry, Biochemistry, Physical Chemistry II, Instrumental Methods, Principles of Biology: Cell Biology & Genetics, Calculus II, and Physics. Electives include: Advanced Biochemistry, Medicinal Chemistry, Molecular Plant Physiology, Cell and Molecular Biology, Topics in Molecular Biology, Microbiology, Advanced Chemistry Topics, and Research in the Natural Sciences.

INTERNSHIPS/UNDERGRADUATE RESEARCH

Students majoring in biochemistry are offered the opportunity to conduct original scientific research in an area of interest. They work closely with one or more members of the natural science faculty to develop and conduct a research project, then present their findings orally during the semester's research symposium and as a formal research paper. Students are encouraged to present their findings at a conference. Students will coordinate internship placement with their supervising faculty member in their junior or senior year. Internships are an intensive study of a specific field of science through an on-site field experience with hands-on learning opportunities that are relevant to the chosen site.

BEYOND THE CLASSROOM

Successful completion of the program will enable motivated students to pursue successful careers as physicians, nurses, veterinarians, chemists, environmental researchers, policymakers, public health professionals, scientific journalists, and educators. Careers may require additional study in a graduate school or professional school program.

CONTACT INFORMATION

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