CAREER OPTIONS

The biochemistry program provides a solid scientific background for students seeking a research, teaching or service career in the life sciences.

Biochemistry coursework and extensive hands-on laboratory experience provide the knowledge and training necessary for students seeking a future in:

- Medical School
- Biochemical Research
- Dental School
- Biotechnology
- Veterinary School
- Biopharmaceuticals
- Graduate School (life science programs)
- Genetics
- Forensic Science
- Proteomic Research

BIOCHEMISTRY

Biochemistry is the study of chemical compounds and processes occurring in living organisms. With new developments and current topics such as stem cell research and cloning, biochemistry is everywhere in today’s society. In response to these trends, Eastern Connecticut State University has developed a biochemistry major and minor, meeting standards set forth by the American Chemical Society (ACS) and the American Society of Biochemistry and Molecular Biology.

The biochemistry program begins with introductory courses common to the biological and chemical sciences. Biochemistry majors then take a rigorous yearlong lecture and laboratory course sequence that familiarizes students with the most significant aspects of biochemistry and biochemical research. In addition, upper-level biochemistry courses examine aspects of modern biochemistry as well as the molecular and cellular techniques used in industrial and academic research facilities. Students are required to take additional courses in biology and physical biochemistry to further their quantitative knowledge of biological processes and bio-macromolecular structure and function.

“Biotechnological research and development should continue to drive much faster than average employment growth.”

“Employment of biological scientists is projected to grow 21 percent over the 2008-18 decade, much faster than the average for all occupations, as biotechnological research and development continues to drive job growth.” (2010-11 Bureau of Labor Statistics, Occupational Outlook Handbook)
LEARNING OUTCOMES

1. Development of broad range of basic scientific knowledge, which is of critical importance in view of new scientific discoveries and information: a) Demonstration of achievement in advanced scientific coursework b) Performance on standardized assessment examinations c) Post-graduation achievement

2. Development of outstanding laboratory skills: a) Performance implementing inorganic analysis b) Performance inorganic analysis c) Performance executing molecular and cell biology techniques d) Performance utilizing advanced physical biochemical analysis and techniques e) Demonstrate capable usage of modern scientific instrumentations, common technology, and computational analysis common to the field

3. Development of superior quantitative analysis skills: a) Ability to analyze and interpret scientific data collected in hands-on laboratories (organic, biochemistry, and chemical instrumentation laboratories) and independent projects b) Ability to perform and critically interpret thermodynamic, kinetic, and biochemical investigations c) Aptitude collecting, presenting, and evaluating scientific and graphical data d) Performance on standardized assessment examinations

4. Display ability to express scientific information in both verbal and written forms to colleagues, superiors, and general public: a) Aptitude writing Scientific Journal Style laboratory reports b) Capacity to deliver oral presentations c) Competence evaluating scientific research papers

STUDENT SUCCESS

Recent Eastern students who have received either a bachelor’s degree or a minor in biochemistry are currently pursuing their future at the following professional/graduate schools and Connecticut-based companies:

- Dartmouth College
- Yale University
- University of Connecticut
- Phoenix Environmental Laboratories
- Pfizer
- University of Connecticut School of Medicine
- Alexion Pharmaceuticals
- Tufts University of Veterinary Medicine
- Virginia Tech University
- Cubist Pharmaceuticals
- Wesleyan University
- Pharmalytica Services
- Protein Science
- University of Chicago
- Dana Farber Cancer Institute