Biochemistry

Website (http://www.northeastern.edu/biochemistry/)

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Biochemistry focuses on the chemical processes occurring in the wide variety of living systems and touches essentially all aspects of our own lives. Our Northeastern program engages you in two integrated paths to a career in biochemistry: rigorous coursework that is designed to prepare you to interpret the ever-expanding knowledge base and hands-on learning that positions you to leverage cutting-edge technology to solve fundamental problems in the chemistry of life.

After required basic coursework in biochemistry, biology, chemistry, physics, and mathematics, our majors select elective courses that reflect many areas of biochemistry including neuroscience, bioorganic chemistry, stem cell and regenerative biology, microbial biotechnology, and systems biology and engineering.

In our interdisciplinary program, students take advantage of faculty-mentored research guided by investigators from bioengineering, biology, chemical engineering, chemistry, pharmaceutical sciences, physics, psychology, and other academic units.

Northeastern's signature co-op program provides complementary opportunities in world-class biotechnology companies, hospitals, and research facilities as close as Boston and as far as your global interest takes you.

Our biochemistry program prepares students to enter the job market directly or go on to graduate, medical, veterinary, dental, law, or business school. Our graduates are qualified for a wide range of careers that span academics, industry, government, and medicine, working in laboratory or clinical research, regulation and quality control, production, marketing, or information systems.

Programs

Bachelor of Science (BS)

• Biochemistry (http://catalog.northeastern.edu/undergraduate/science/biochemistry/biochemistry-bs/)
• Data Science and Biochemistry (http://catalog.northeastern.edu/undergraduate/computer-information-science/computer-information-science-combined-majors/data-science-biochemistry-bs/)

Bachelor of Science in Bioengineering (BSBioE)

• Bioengineering and Biochemistry (http://catalog.northeastern.edu/undergraduate/engineering/bioengineering/bioengineering-biochemistry-bsbioe/)

Bachelor of Science in Chemical Engineering (BSCHE)

• Chemical Engineering and Biochemistry (http://catalog.northeastern.edu/undergraduate/engineering/chemical/chemical-engineering-biochemistry-bs/)

Minor

• Biochemistry, Minor (http://catalog.northeastern.edu/undergraduate/science/biochemistry/biochemistry-minor/)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (http://catalog.northeastern.edu/undergraduate/science/accelerated-bachelor-graduate-degree-programs/#programstext)

Courses

Biochemistry Courses

Search BIOC Courses using FocusSearch (http://catalog.northeastern.edu/class-search/?subject=BIOC)

BIOC 1000. Biochemistry at Northeastern. 1 Hour.
Introduces first-year students to the major and the field of biochemistry and to the professional and academic resources available to students at Northeastern University. Acquaints students with their faculty, advisors, and fellow students; provides an initial orientation to undergraduate research, cooperative education, and other experiential learning options; helps develop the academic skills necessary to succeed; provides grounding in the culture and values of the university community; and assists in interpersonal skill development—in short, familiarizes students with the resources and skills needed to become a successful university student.

BIOC 4900. Biochemistry Capstone. 1 Hour.
Designed for students who are also enrolled in approved 4-semester-hour research courses where they conduct original experimental work under the direction of a faculty mentor. Requires reflection by students on their various educational experiences, extensive research of scientific questions related to these experiences (with the research itself carried out in the approved research course), and development of an original research report. Required components include writing with revision and an oral presentation at a programwide capstone seminar. Offers students an opportunity to hone reflection and communication skills through formal and informal presentations, class discussion, and critique. Requires concurrent registration in BIOC 4991, BIOL 4991, CHEM 4991, or other 4-SH research course approved by the biochemistry program director.

BIOC 4970. Junior/Senior Honors Project 1. 4 Hours.
Focuses on in-depth project in which a student conducts research or produces a product related to the student’s major field. Combined with Junior/Senior Project 2 or college-defined equivalent for 8-credit honors project.

BIOC 4971. Junior/Senior Honors Project 2. 4 Hours.
Focuses on second semester of in-depth project in which a student conducts research or produces a product related to the student’s major field.

BIOC 4991. Research. 4 Hours.
Offers an opportunity to conduct research under faculty supervision.

BIOC 4994. Internship. 4 Hours.
Offers students an opportunity for internship work.