



ABOUT THE PROGRAM

Biology students learn to formulate and answer scientific questions about how living systems work, from genes, to cells, to organisms, to communities. All students take rigorous classroom and laboratory courses in cell and molecular biology, genetics, chemistry and physics that teach the necessary fundamentals. Elective courses allow students to specialize their training in areas such as cancer, drug design, evolution, environmental biology or physiology. Project laboratories and individual research projects help students acquire the skills to do science independently. Many students choose to major in biology while pursuing the university's prehealth track.

What makes the program distinctive?

Brandeis is known for cutting-edge research in the life sciences. Researchers in more than 50 labs investigate fundamental life processes ranging from the structure and function of individual proteins

to the mechanisms that control the behavior of whole organisms. Students play key roles in the research process.

FAST FACTS

Current number of majors: 267

Number of faculty: 31

Can you minor in this program? No

Emphasis within the major: development; genetics; molecular and cell biology; motility; neuroscience; structural biology

Popular second majors: biochemistry; chemistry; health: science, society and policy; neuroscience

Website: www.bio.brandeis.edu

ACADEMICS AND RESEARCH

State-of-the-art facilities

The core chemistry and biology undergraduate labs are housed in the striking Carl J. Shapiro Science Center, which opened in 2009. The science complex contains many advanced research facilities for genomics, microscopy and spectroscopy. For example, the new Correlative Light and Electron Microscopy facility allows new insights into the functional organization of cells, and our next-generation sequencing facility enables the precise study of RNA synthesis, splicing and editing.

Student research

The many research laboratories provide opportunities for undergraduates to work under the direction of expert faculty. Many students begin working in labs as early as their first semester, developing the skills that lead up to a substantial senior honors thesis. Undergraduate research is aimed at significant unanswered problems in science. Since 2003, Brandeis undergraduates have been co-authors on more than 130 peer-reviewed research publications.

BEYOND THE CLASSROOM

Study abroad

Many students take a summer, semester or year to study abroad. Popular programs include SIT Brazil, DIS Copenhagen and the University of Melbourne, Australia.

Career exploration

Biology major Manasa B. '11 interned at the Dermatology Research Center at Tufts Medical Center, exploring dermatology as a clinical specialization. Biology major Kerwin V. '12 spent a summer working at Seventh Sense Biosystems on novel technologies for blood sampling and diagnostic testing.

Student activities

Brandeis hosts a chapter of the Society for the Advancement of Chicanos and Native Americans in Science, dedicated to fostering the success of Hispanic/Chicano and Native American scientists in attaining advanced degrees, careers and positions of leadership. Student undergraduate departmental representatives organize social events, mentoring and career seminars.

AWARDS AND RECOGNITION

Renowned faculty

Ten Brandeis life sciences professors are members of the National Academy of Sciences, a society of distinguished scholars engaged in scientific research. Four faculty members have been named Howard Hughes Medical Institute Investigators, one of the top honors for biomedical scientists. One professor is the recipient of a Pioneer Award from the National Institutes of Health.

Undergraduate research awards

Students may be paid for research work from grants to their faculty sponsors or from competitive awards including the Schiff Undergraduate Fellows Program, the Barry M. Goldwater Scholarship and Excellence in Education Program, and the Pfizer Fellowship for Summer Research program.

AFTER BRANDEIS

Graduate school

Many biology majors follow the prehealth track at Brandeis, which prepares students for dental, medical and veterinary schools. Recent Brandeis graduates were admitted to medical school at a rate of 75 percent, compared to the national average of 45 percent. Many other graduates pursue Ph.D.s in biology and related sciences.

Careers

Most students go on to careers in scientific research or in medicine and other health professions. Others bring their scientific backgrounds to business, education, law, genetic counseling and environmental advocacy.

Notable alumni

Brandeis biology graduates include Arthur Levine '70, former president of Columbia University Teachers College, and Shen Tong '91, a student leader at the 1989 Tiananmen Square uprising. Other recent alumni have gone on to become a neurosurgery resident at Kansas University Hospital, a director of development at Brigham and Women's Hospital, an analyst at CRA International Pharmaceuticals, a senior medical director at Pfizer Inc. and a veterinarian at Grayslake Animal Hospital.

“Professor Kosinski-Collins shows dedication to the learning experience of all her students in the time and effort she puts into being there for us. I feel comfortable going to her for a range of concerns, from technical questions on lab report discussions, to questions about my future in a field of science, to issues in science education. She has been a constant source of support.”

A former student on Melissa Kosinski-Collins, recipient of the 2010 Louis Dembitz Brandeis Prize for Excellence in Teaching

