

NJIT

New Jersey's Science &
Technology University

THE EDGE IN KNOWLEDGE

Bachelor of Science In Biology



College of Science and Liberal Arts

New Jersey Institute of Technology

WHY STUDY BIOLOGY?

Some of the most exciting issues of our era, such as those relating to biotechnology, genetic engineering, environmental problems, neuroscience and health, require a strong background in biology. Biology provides adaptability; knowledge of a broad range of subjects; analytical, logical, and critical thinking; and ability to work in teams, often interdisciplinary. There are many unanswered questions that are “bio” related and many challenges that will decide our quality of living in the future. For example, a neurobiologist might ask: How is memory stored in the brain? What changes in the brain lead to Alzheimer’s disease? Where does our cognition come from?

WHY STUDY BIOLOGY AT NJIT?

NJIT’s scientists and engineers conduct research on many different bio-related topics and at various levels. Our mathematical neuroscientists work on basic aspects of the brain, from the electrical activity of individual neurons to networks of neurons involved in vision, oscillatory muscle activity, and memory mechanisms. Vision research, stem cells and tissue engineering are major research concentrations in biomedical engineering. Other researchers focus on the environment and the prevention and remediation of pollution. Some biophysics research is taking place on non-linear auditory responses in mammals. NJIT’s research activities in bio-related fields are some of the most diverse in New Jersey, and continued expansion of research expertise in these areas will enhance the health and safety of our society, and also can provide basic understanding and tools for improving treatments in medicine and treatment to make our world a better place to live.

WHAT ARE SOME EXAMPLES OF CAREERS IN BIOLOGY?

A BS in biology is the ideal starting point for many careers as well as for graduate and professional degree programs:

- **Medicine/Health Care:** The demand continues to be high for all health professionals, including physician, dentist, optometrist, pharmacist, veterinarian, physical therapist, occupational therapist, physician’s assistant, speech pathologist, and many more of other clinical careers.
- **Clinical laboratory/Medical Technology:** Technicians who perform and develop laboratory test procedures in areas such as hematology, bacteriology, parasitology, mycology, blood bank, immunology, and biochemistry are also in high demand. These technicians are employed by physicians, clinics, hospitals, health maintenance organizations, and medical research facilities.
- **Public Health:** Concerned with the health of the overall population, public health professionals have a direct role in preventing the threat of bio-terrorism.
- **Forensic Science:** Forensic biologists work in the criminal justice system to investigate crime scenes or evidence found at crime scenes.
- **Sports medicine:** Sports medicine is an umbrella term for any health profession where the concentration is on the injuries and ailments suffered by athletes. To work in this field you will need an advanced degree in some area of clinical medicine with a specialty in the unique health problems of athletes.
- **Exercise physiology:** Exercise physiologists study the human body and its response to the stress of athletic performance. Their findings have relevance not only for athletes but for anyone undergoing vigorous physical activity, such as construction workers, agricultural workers, or military personnel.
- **Education:** Students who wish to earn secondary teacher certification in biology should enroll in the secondary teaching certification concentration.
- **Environmental microbiology:** These professionals are generally involved in testing water sources for contamination. They perform bioremediation on sites that are very contaminated and try to control the spread of pathogens.

- **Industrial microbiology:** These scientists are concerned with the development of new products, of new methods to preserve food and pharmaceuticals, and of quality standards for microorganisms. Industrial microbiologists may also investigate the genetics and biochemical techniques for creating microorganisms with desired traits.
- **Agricultural and Food microbiology:** These microbiologists work to increase crop yield and develop superior products. These specialists work on the elimination and prevention of contamination by food-borne pathogens, new sanitation practices, isolation and identification methodology for pathogens in food products, and/or quality control procedures for the production and processing industries.

IS FINANCIAL AID AVAILABLE?

The Office of Student Financial Aid Services helps to provide NJIT students with every opportunity to obtain funding to support their educational costs. The university encourages all students to apply for financial aid. www.njit.edu/admissions/financialaid/index.php

NJIT AT A GLANCE

- New Jersey’s Science and Technology University, founded in 1881.
- Enrollment of just over 8,000 undergraduate and graduate students in six schools small-college intimacy with big university resources.
- 45-acre campus with a recently-completed \$83-million construction program featuring a new Campus Center.
- A *U.S. News and World Report* “Top National University.”
- A *Princeton Review* “Best Value College” and “Top 25 Most Connected College.”
- Ranks 10th in the nation in diversity with students from more than 100 countries
- 13:1 faculty-student ratio.

FOR FURTHER INFORMATION, CONTACT:

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TO FIND OUT MORE ABOUT NJIT, CONTACT:

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