

NJIT[™]

New Jersey's Science &
Technology University

THE EDGE IN KNOWLEDGE

Bachelor of Science in Biomedical Engineering



Newark College of Engineering

New Jersey Institute of Technology

WHY STUDY BIOMEDICAL ENGINEERING?

The fastest growing of the engineering disciplines, biomedical engineering allows a student to work as an engineer at the intersection of technology and the biomedical sciences, by integrating physiology, biology, and medicine to develop methods of solving clinical problems in medicine and surgery. A bachelor's degree in biomedical engineering is the first step toward a rewarding engineering career in the medical device industry, the pharmaceutical industry and medical centers. Biomedical engineering is also recognized as one of the strongest preparations for professional careers in medicine, dentistry, and other health professions.

WHY STUDY BIOMEDICAL ENGINEERING AT NJIT?

New Jersey is home to some of the most exciting biomedical enterprises in the world, and NJIT is right in the middle of the activity. Located in the University Heights district, NJIT is within walking distance of the University of Medicine and Dentistry of New Jersey and University Hospital. This is the flagship facility of the state's medical university and adds a new dimension to biomedical engineering education. Within a block from campus are the world-class Public Health Research Institute and the nationally renowned Center for Molecular and Behavioral Neuroscience at Rutgers-Newark. Cooperative research is performed with companies, rehabilitation institutes and medical centers within easy commute from NJIT.

WHAT WILL I DO IN MY BIOMEDICAL ENGINEERING CLASSES?

NJIT offers an exciting education in biomedical engineering. New studio-based courses combine faculty lectures with hands-on experience. Theory is learned in the context of real-life applications. Students are encouraged to explore the breadth of the field through many opportunities -- design new instrumentation, study advanced computer applications in medicine and pharmacology, research new biomaterials, apply laser technology to treat disease, build micro and nano machines, and work on new prosthetic devices.

Instead of lectures, students in the studio-based program work in teams to perform angioplasty on pasta, amniocentesis on jelly donuts and surgery on hot dogs. Developed with funding from the NSF and the Whittaker Foundation, the studio classes are taught in specially designed classrooms equipped with sophisticated equipment. The studios are wired for the Internet and multimedia equipment and are furnished with ten PC-based lab stations that serve groups of students. The studios also have customized biomedical equipment such as amplifiers, oscilloscopes, power supplies, function generators and multi-meters.

WHAT TYPES OF BIOMEDICAL ENGINEERING RESEARCH CAN I DO?

Students are welcome in NJIT's state-of-the-art research laboratories where they work alongside faculty and graduate students, and contribute to original research and development. This learning also extends beyond the classroom to research internships in nearby medical facilities and industrial internships with some of the most dynamic companies in the nation.

Among the cutting-edge research centers based the Department of Biomedical Engineering are:

- The newly-created Newark Institute for Regenerative Medicine, which focuses on stem cell research
- The Rehabilitation Engineering Research Center, funded by the National Institute on Disability and Rehabilitation Research

- The Medical Device Concept Laboratory of the New Jersey Center for Biomaterials
- The Vision and Neural Engineering Laboratory

WHAT AREAS OF CONCENTRATION ARE AVAILABLE?

The BS in Biomedical Engineering offers several tracks that help students specialize in an area of their interest: bioinstrumentation, biomechanics, and biomaterials and tissue engineering

WILL I BE ABLE TO GET INDUSTRY EXPERIENCE?

The Department of Biomedical Engineering has a strong internship program that provides students with the opportunity to get real-world experience and marketable career skills, while companies get access to quality interns with a record of demonstrated academic excellence. Companies participating have included: Boston Scientific, Datascope, Ethicon, Integra Life Sciences, Respirationics, Supertron Technologies, Stryker Orthopaedics and Vyteris.

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.

<http://www.njit.edu/admissions/finaid>

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 provides small-college intimacy with big university resources.
- 45-acre campus with a recently-completed \$83-million construction program featuring a new Campus Center.
- A *Princeton Review* Best Value College and "Top 25 Most Connected College."
- A *U.S. News* top national university, NJIT is 10th in the nation in diversity.
- 1:13 faculty-student ratio.

FOR MORE INFORMATION

Dr. Judith D. Redling
Coordinator of Undergraduate Programs
judith.d.redling@njit.edu, 973-596-3556.

TO APPLY:

Office of Undergraduate Admissions, 1-800-925-NJIT
Or apply on line:
<http://www.njit.edu/admissions/applyonline.php>