

# NJIT

New Jersey Institute of Technology  
A Public Research University

## The Bachelor of Science in Biomedical Engineering

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physiology, medicine +  
engineering, computing, technology =  
biomedical engineering

**M**any of the advancements in healthcare are the result of major discoveries and inventions led by biomedical engineers. The life-saving technology found in major hospitals, the artificial limbs and sensory technology that help overcome disabilities, and the pacemakers and implants that extend lives, are all the result of creative engineering applied to problems found in medicine and the biological sciences. This is one of the fastest growing engineering fields in the nation.

Biomedical Engineering

# Questions & Answers



Earning a bachelor's degree in biomedical engineering prepares you for a rewarding career in industry or in medical centers, or for graduate study.

## WHY STUDY BIOMEDICAL ENGINEERING?

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. Earning a bachelor's degree in biomedical engineering prepares the NJIT student for a rewarding engineering career in the biomedical engineering industry, the pharmaceutical industry and medical centers or a promising opportunity for graduate study in biomedical engineering, bioinformatics, medicine, dentistry, business and law.

## WHY STUDY BIOMEDICAL ENGINEERING AT NJIT?

New Jersey is home to some of the most exciting biomedical engineering 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 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. A block from campus is the world-class Public Health Research Institute now under construction and one block the other way, the nationally renowned Center for Molecular and Behavioral Neuroscience at Rutgers-Newark. NJIT's biomedical engineering students consider the whole of University Heights to be their campus. Cooperative research is performed with companies, rehabilitation institutes and medical centers within an easy commute from NJIT.



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### **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.

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### **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.

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### **WHAT AREAS OF CONCENTRATION ARE AVAILABLE TO ME?**

The B.S. in Biomedical Engineering allows students to choose biomedical engineering courses from one of these options\*:

- Biomaterials
- Biomedical Computation
- Biomechanics
- Biomedical Signal Processing and Instrumentation
- Medical Imaging
- Premedical Engineering
- Rehabilitation Engineering

\* pending approval



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## **WHAT WAYS ARE THERE TO SHAPE MY ACADEMIC PROGRAM?**

NJIT offers a variety of ways to help students create an educational program that suits individual career goals and interests:

### **Albert Dorman Honors College**

Students who demonstrate superior levels of achievement in high school can continue on a challenging leadership track at NJIT's Albert Dorman Honors College. One of the nation's leaders in technologically oriented honors education, the honors college offers qualified students a truly unique academic experience.

[honors.njit.edu](http://honors.njit.edu)

### **Cooperative Education**

Many students elect for one or more semesters of cooperative education, earning academic credits and a salary while gaining real-world experience at area businesses.

[www.njit.edu/CDS/StudentServices/Coop.htm](http://www.njit.edu/CDS/StudentServices/Coop.htm)

### **Academic Minors**

Students can tailor their course of study with one of NJIT's 25 academic minors that broaden their exposure and increase competence in an additional subject area.

<http://www.njit.edu/catalog/undergraduate/00Fall/28.html>

### **Accelerated and Other Degree Options**

Students may opt for double majors (majors in two areas of study); dual bachelor's degrees (earn two bachelor's degrees simultaneously); a dual major with Rutgers-Newark (complete one major at NJIT and one major at Rutgers-Newark); or accelerated bachelor's/master's programs (earn credits that count toward both the bachelor's and the master's degree).

<http://www.njit.edu/catalog/undergraduate/00Fall/105.html>

### **Academic Enrichment and Support Programs**

The Educational Opportunity Program, Career Advancement Plan, Community and Public Service, University Research Experience, Ronald E. McNair Postbaccalaureate Achievement Program, and Student Exchange/Study Abroad Program are other avenues available to students who wish to enhance their academic lives and careers while at NJIT.

<http://www.njit.edu/catalog/undergraduate/00Fall/105.html>



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## **IS THERE FINANCIAL AID AVAILABLE?**

The Office of Student Financial Aid Services is committed to providing students attending NJIT 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/Directory/Admin/Admissions/finaid.html/>

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## **FOR FURTHER INFORMATION**

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NJIT does not discriminate on the basis of sex, sexual orientation, race, age, religion, national or ethnic origin, veteran's status or handicap in its educational programs, activities or employment policies. Campus facilities are accessible to the disabled.