RUTGERS SCHOOL OF ENGINEERING
Advancing Leaders to Solve Today’s Complex Engineering Challenges

Biomedical Engineering Doctoral Program
Rutgers School of Engineering’s research-driven doctoral program in Biomedical Engineering is designed for promising students aiming to make original contributions to the field of biomedical engineering. We offer two programs in conjunction with Rutgers Biomedical and Health Sciences and Robert Wood Johnson Medical School: a traditional doctoral degree as well as a joint medical/doctoral degree program.

BME Curriculum Highlights

The doctoral degree is essential for those planning careers in research and/or academia. Our faculty and students work together to advance key areas of bioengineering and technology, including molecular systems; nanosystems and microsystems; tissue engineering and regenerative medicine; biomechanics and rehabilitation engineering; physiologic systems; and bioinstrumentation, biomedical imaging, and neuroengineering.

- Doctoral coursework and research are integrated to provide the strong foundation in applied physics/mathematics, biology and physiology necessary to create innovative, breakthrough solutions in health and biomedicine.
- Core courses include:
  - Bioimaging Methods
  - Biosignal Processing and Biomedical Imaging
  - Biocontrol, Modeling and Computation
  - Kinetics, Thermodynamics and Transport in Biomedicine
  - Biomechanics and Materials
- Advanced courses include:
  - Mathematical Modeling for Biomedical Engineering
  - Structure and Dynamics in Adult and Stem Cell Biology
  - Interdisciplinary Biostatistics Research Training for Molecular and Cellular Sciences: Enhancing Rigor and Reproducibility
  - Medical Device Development
  - Professional Development (5 courses)

Academics and Research

- The program includes faculty from Rutgers science and engineering departments; Robert Wood Johnson Medical School; other area academic institutions; and local industry researchers.
- The department hosts and co-hosts nationally recognized research and training programs such as the NIH Biotechnology and Bioengineering Doctoral Training Program and the NIH Postdoctoral Training Program in Tissue Engineering and Implant Science.
- Faculty hold prominent positions in numerous university-wide Centers of Excellence.
- Students learn and conduct research in state-of-the-art labs, including micro-fabrication, tissue culture, materials testing, microscopy, and more.
- We offer a first-year research rotation program.

Work from our research programs results in publication in leading journals; patented technologies; and extensive funding from state, national, and international sources, as well as from industry partners.

Doctoral Degree Requirements

- 72 credits – 35 course credits and 37 research credits
- Written and oral qualifying exams
- Dissertation proposal and defense

Why Rutgers Biomedical Engineering?

- Our innovative courses and programs are designed to train academic and industry leaders.
- Our collaborative, interdisciplinary academic community is committed to transformative education and research that is ethically responsible and sustainable.
- Our active student community is engaged in cutting-edge research.
- Our accomplished faculty includes internationally recognized experts in their fields, who span departments and schools within Rutgers.
- Our inclusive student population is more than 50% female.

For application deadlines and more information, visit bme.rutgers.edu