BE IT ALL BIOMEDICAL ENGINEERING.

As a biomedical engineer, you may be developing artificial organs, designing next-generation CT scanners, or optimizing deep brain stimulation to prevent epileptic seizures. Illinois Tech’s biomedical engineering program prepares you for careers in industry and research through an exciting, design-oriented curriculum. Our program begins with a design project in the first semester and culminates with a fourth-year capstone design sequence in which you will develop innovative medical solutions to industry-sponsored projects.

As a biomedical engineering student you will learn how to solve challenging medical problems in and outside the classroom. Many of our students engage in undergraduate research, present at research conferences, improve living conditions in developing communities through international engineering projects, and lead outreach activities in our local community. If you are interested in improving the health of others through engineering, a biomedical engineering degree from Illinois Tech is a solid investment in your future.

Armour College programs are accredited by the Engineering Accreditation Commission of ABET. Attending an accredited institution is a requirement for licensure—an essential for professional success.

B.S. in Biomedical Engineering Programs

Earn your Bachelor of Science in Biomedical Engineering while focusing on a specialization of greatest interest to you:

- B.S. Biomedical Engineering—Cell and Tissue Engineering
- B.S. Biomedical Engineering—Medical Imaging
- B.S. Biomedical Engineering—Neural Engineering

Research—Even As an Undergrad!

Biomedical engineering faculty are very active in funded research. Undergraduate students have ample opportunities to participate, either directly with their professors, through the Armour R&D Program [see back panel], or in Armour’s Summer Engineering Research Immersion Program. Illinois Tech’s Elevate program also provides research opportunities for students, some offering up to $5,000 in support.

Research on the Edge

Just a few areas of research expertise among Illinois Tech biomedical engineering faculty include:

- Medical imaging, including phase-sensitive X-ray imaging
- Machine learning
- Molecular imaging
- Hydrogels, cell-biomaterial interactions
- Signal and image processing
- Cancer research
- Retinal vascular occlusion
- Brain electrophysiology, chaos control of epilepsy
- Neural prostheses

“I visited a lot of schools that focused on engineering and almost all of them said not to go into research as a biomedical engineer—do instrumentation or make machines for hospitals. But I didn’t want to do that. I wanted the engineering to be on live cells and tissues. When I came to Illinois Tech I was told that cell and tissue engineering is our largest program of all the specializations in biomedical engineering. I thought that even if it was more challenging for me to find a job, I could at least go to a school that would encourage me to pursue what I want. That’s why I chose Illinois Tech.”

— Emmalee Giriacks (4th Year)

West Bend, Wisconsin

FACULTY ON THE EDGE

Professor Philip Troyk—Developing an intracortical visual prosthetic device aimed at helping to restore vision to sight-impaired individuals

Assistant Professor Kenneth Thieau—Improving cancer treatment options through advanced imaging, such as the ADEPT 2-D high-resolution molecular imager

Associate Professor George Papavassiliou—Tissue engineering and nanoparticle drug-delivery methods to regenerate tissues damaged due to trauma or disease

“Professor Philip Troyk is my biggest source of inspiration. He welcomed me to work in his laboratory even though I was only a sophomore. He believed in me and taught me many valuable skills that I can employ not only in the lab, but wherever I may end up going in life. I aspire to be like him one day and to have his passion, patience, and determination to overcome obstacles and try what many others feared to try.”

— Omar Tawakol

(Biomedical Engineering 4th Year)

2’fer Advantage

Illinois Tech’s special degree programs allow you to receive both your bachelor’s and master’s degrees in as few as five years.

- B.S. Biomedical Engineering/M.A.S. Biomedical Imaging and Signals
- B.S. Biomedical Engineering/M.A.S. Chemical Engineering
Learn to Innovate in IPROs

In Illinois Tech’s signature Interprofessional Projects (IPRO) Program, you’ll work with students from various majors to solve real-world problems. This hands-on collaborative experience gives our students a big advantage after graduation.

Recent IPROs involving biomedical engineering include:
- Biodesign innovation in the consumer space
- Innovations in neuromuscular and stroke rehabilitation
- Developing an electro-mechanical computer-controlled wound therapy bed
- Simulating and visualizing molecules moving through biological nanopore sensors

STAND OUT.

Our graduates are far from ordinary. But we expect them to be extraordinary.

Illinois Tech biomedical engineering graduates have advanced to jobs in industry with companies such as Medline, Baxter, Abbott, Microsoft, and GE Healthcare. Others have continued to graduate school and become biomedical engineering researchers, or to medical school to pursue M.D. and M.D./Ph.D. degrees.

Robert Dawe (Biomedical Engineering ’06, Ph.D. ’11)—Assistant professor at Rush University Medical Center researching postmortem brains affected by Alzheimer’s or at high risk for the disease

Russell Derrick (Biomedical Engineering ’06)—Biomedical flight controller for Wyle Laboratories who works with NASA Mission Control to ensure health care for the astronauts on the International Space Station

Michael Turturro (Biomedical Engineering ’07, Ph.D. ’12)—Manager of the Materials Science Laboratories division of Medline Industries, a global manufacturer and distributor of medical products, and sponsor of Illinois Tech’s biomedical engineering capstone design sequence

ARMOUR COLLEGE OF ENGINEERING AT ILLINOIS TECH

DISTINCTIVE EDUCATION

At Armour College of Engineering, we integrate innovative thought, entrepreneurship, creativity, and design with engineering theory, research, and practice. You will get the chance to work on projects that are normally open only to graduate students—and have the opportunity to apply what you have learned in the classroom to some of the most complex problems facing society today.

We enhance our college’s already strong curriculum with lecture series, forums, interactive problem solving, professional site exploration, and team-intensive engineering projects focusing on four themes: water, health, energy, and security. As you take part in these theme opportunities, your activity is tracked in your own personal online portfolio for use as a supplement to your résumé or as additional material for your application to graduate school.

Having a complete understanding of the research and development process will also help ensure your success after you graduate. Our Armour R&D Program includes two programs: Program for Undergraduate Research Education (PURE), which focuses on research, and Mentored Innovation and Development (MIND), which focuses on developing research-based technology. Both programs aim to give undergraduate students a hands-on experience with research and development that is unique to Armour College.

All distinctive education programs are designed to give you a competitive edge and tangible experience in global issues. Be confident in the fact that when you graduate from Armour College of Engineering, you will already be working on relevant and impactful solutions.

TAKE A VIRTUAL TOUR

Visit us now! Log on to www.iit.edu/virtualtour to view a cool online virtual tour of our buildings, labs, open spaces, and more!