

ILLINOIS TECH

BE **IT** ALL
ENGINEERING.

Illinois Tech's **Armour College of Engineering** prepares students to innovate and lead. These are the engineers who will create technologies that drive high-impact solutions to complex problems in our global society.

Distinctive. Relevant. Rigorous.

ILLINOIS INSTITUTE
OF TECHNOLOGY



Five Departments. One Distinctive Educational Experience.

The current challenges facing humanity have no geographical or cultural boundaries—and engineers hold the key to innovative, sustainable solutions.



WHY ENGINEERING AT ARMOUR?



Armour College is committed to providing students dynamic, interdisciplinary learning environments. This is reflected in the newly renovated **John T. Rettaliata Engineering Center**, including the Robert B. Kyts Design Studio and Machine Shop.

DEPARTMENT OF BIOMEDICAL ENGINEERING

- Degree programs in cell and tissue engineering, medical imaging, and neural engineering

These are exciting times for biomedical engineering and for Illinois Tech's Department of Biomedical Engineering. We have developed new research and teaching facilities, our faculty are on the forefront of research in the field, and we are continuing to grow our undergraduate program. We are attracting an exceptional group of undergraduates interested in the application of engineering and mathematics to biology and clinical medicine. In your sophomore year, you decide which of three BME tracks you want to pursue (cell and tissue engineering, medical imaging, or neural engineering)—each of which integrates different aspects of traditional engineering fields with medical science.

DEPARTMENT OF CHEMICAL AND BIOLOGICAL ENGINEERING

- Degree program in chemical engineering

Illinois Tech's Department of Chemical and Biological Engineering—established in 1901—was one of the first chemical engineering programs in the country. Today, it also continues to be one of the most innovative programs on the leading edge of relevance to society and industry. For example, to respond to emerging industry changes, the department has expanded its curriculum to introduce biology modules in course and laboratory instruction. Our students and faculty look at the world through a different lens—and are working on projects that will impact cities and communities across the globe.



DEPARTMENT OF CIVIL, ARCHITECTURAL, AND ENVIRONMENTAL ENGINEERING

- Degree programs in civil engineering, architectural engineering, and engineering management
- Certificate in engineering graphics and CAD curriculum
- Concentration in environmental engineering

Armour has a hundred-year-long tradition of educating civil engineers who are stewards of the systems that are the foundation of the human environment. These include building systems; transportation systems for roads, rail, waterways, and airways; water supply and treatment systems; and air protection systems. You will become an engineer with an entrepreneurial outlook and management expertise—and an Illinois Tech graduate who is valued by employers around the world.

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

- Degree programs in electrical engineering and computer engineering
- Dual-degree program in electrical and computer engineering

Join the ECE faculty, students, and alumni who are changing the world through their initiatives and research in such areas as alternative energy resources, communications, medical imaging, and computer hardware and software. Our tradition of innovation dates back to 1906, when Illinois Tech faculty member Lee de Forest invented the first vacuum tube capable of amplifying an electrical signal. Another exemplary technical leader was Martin Cooper (EE '50, M.S. '57), who invented the cell phone and continues to be a pioneer in the development of wireless communication. Today, our lab-intensive curriculum gives you the hands-on experience and skills you need to move these and emerging technologies forward.

“One of the big things that sets my degree program apart is how easy it is to connect with the professors. I have friends in similar majors at many other universities, and in exchanging experiences the one thing I find every time is that their professors are always more removed. I have loved having the ability to walk into most of my professors' offices and ask questions, receive help, and get advice on my schooling and future career most any day of the week.”



—Jeremy Becker (Aerospace Engineering '17), Palatine, Illinois

DEPARTMENT OF MECHANICAL, MATERIALS, AND AEROSPACE ENGINEERING

- Degree programs in mechanical engineering, materials science and engineering, and aerospace engineering

Our three bachelor's degree programs expose you to an interdisciplinary context, which is ideal for industrial production and research enterprises. By weaving design and communications throughout our curriculum, we have created a culture of excellence that has resulted in several of our alumni becoming members of the National Academy of Engineering—one of the highest professional honors an engineer can receive. Our students often choose to deepen their interests in engineering through robotics, fluid dynamics, design, materials science, green energy, transportation, biomechanics, and space systems.

Research—Even As an Undergrad!

Our faculty conduct cutting-edge research with real-world applications—and there are countless opportunities for undergraduates to participate.

Abhinav Bhushan, assistant professor of biomedical engineering, heads a research group that includes more than a dozen

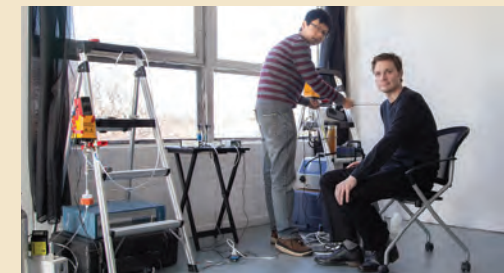


undergraduate students in Armour College. His lab studies inflammation and metabolic diseases, using novel microfluidics and microfabrication to engineer tissues as well as to develop sensors

for chemical and biochemical measurements. Their goal is to ultimately translate their discoveries from bench to the bedside, in order to improve patient health outcomes.

Assistant Professor **Brent Stephens** (a.k.a. “Dr. Building”) runs the Built Environment Research Group, in which he and his students conduct research on energy efficiency and indoor air quality in buildings. They are currently engaging in EPA-funded research that is measuring and modeling the amount of outdoor pollutants such as ozone and particulate matter that infiltrate into

homes across the country. Stephens maintains an unoccupied apartment unit in graduate housing for his research called STUDIO-E, or the Suite for Testing Urban Dwellings and their Indoor and Outdoor Environment.



LEADERSHIP. ENTREPRENEURSHIP. ETHICS. EXCELLENCE.

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.



"My research was funded by and conducted through the Armour R&D PURE program. This program allowed me to perform research in a deadline-oriented environment that pushed me to participate in research expos throughout the year. The research made a lasting impact on me, as one of my career goals is to work in the energy industry, with a focus on water quality and water usage."

—Yusra Khalid [Chemical Engineering '17], Naperville, Illinois

engineering.iit.edu

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Consider a 2'fer

Armour College also offers special degree programs that allow undergraduate students to earn both their bachelor's and master's degrees in as few as five years.