

ENGINEERING

DISCOVER. CREATE. SOLVE.



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.

ILLINOIS TECH

WHY ENGINEERING AT ARMOUR?

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.

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 100-plus year 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, computer engineering, and computer cyber security 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.

DEPARTMENT OF MECHANICAL, MATERIALS, AND AEROSPACE ENGINEERING

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

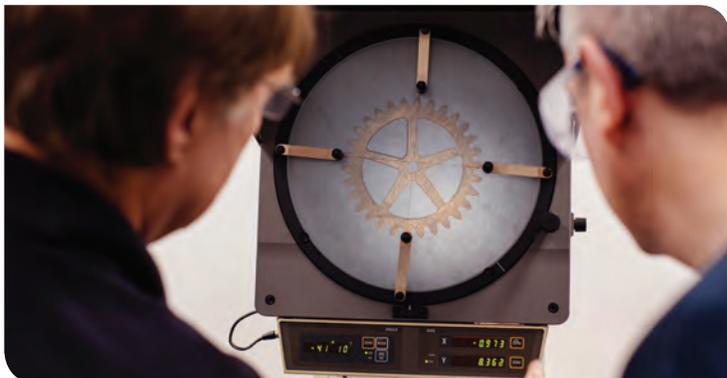
Our three bachelor's degree programs expose you to an interdisciplinary context, which is ideal for industrial production and research enterprises. By weaving design and communications throughout our curriculum, we have created a culture of excellence that has resulted in several of our alumni becoming 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.





"My senior design project involved working with Associate Professor Georgia Papavasiliou and four classmates, and the course was led by Associate Professor Jennifer Kang-Mieler. We were tasked with creating a solution to quantify nanoparticle retention in real time on tissue surfaces. That project stood out the most to me because we were tasked with creating a solution from scratch to something that had a huge impact. I had amazing design teammates. Each of them has pursued amazing opportunities after **Illinois Tech**, including working as a consultant for Microsoft, studying osteopathic medicine, bioprocess engineering for AveXis, and quality assurance engineering for Medline. I still look to them as some of the smartest people I have ever worked with!"

— **April Wanagas** (Biomedical Engineering '16/M.A.S. Chemical Engineering '17)
Performance and Process Manager II, Enterprise Systems Intern Program Co-Lead
Grainger

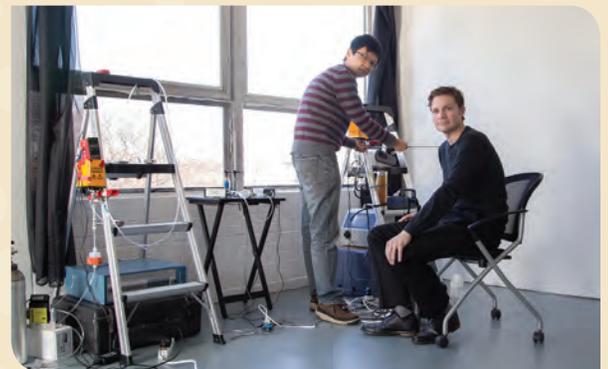


Research— Even As an Undergrad!

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 and develop sensors for chemical and biochemical measurements. Their goal is to ultimately translate their discoveries from bench to the bedside 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 and staff conduct research on energy efficiency and indoor air quality in buildings. Their research on measuring and modeling the amount of airborne pollutants such as particulate matter and ozone that exists in homes has been funded by EPA, HUD, ASHRAE, and others. 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 Environments.

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**.



“The program that left the biggest impact on me is the Armour College of Engineering R&D program. I was honored to work under Professor Phil Troyk’s supervision on Illinois Tech’s Intracortical Visual Prosthesis Project. During the program I got to meet and interact with notable professors and physicians at **Illinois Tech** as well as other institutions. I was able to publish an academic paper in *Engineering in Medicine and Biology Magazine* and to present this work at a conference.”

— **Omar Tawakol**
(Biomedical Engineering '18),
Cairo, Egypt

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 solutions.

engineering.iit.edu

Office of Undergraduate Admission

Perlstein Hall, Room 101
10 West 33rd Street
Chicago, IL 60616-3793

312.567.3025
800.448.2329 (outside Chicago)
312.567.6939 (fax)



Consider a Co-Terminal

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. You can keep your undergraduate scholarships in your fifth year.