Innovation.

Its catalyst is passion—a combination of imagination and persistence that inspires certain people to look forward and go beyond what is.

It is the process of looking at the world through a different lens to find solutions to big problems.

It leads to new products and novel approaches to doing business.

Innovation is one of the most powerful societal and economic engines we have—and it needs a special type of fuel.
The Distinctive IIT Engineer

Armour College of Engineering graduates develop technologies that drive global change. Whether inventing the cell phone, or running global corporations, IIT alumni demonstrate that IIT builds better engineers. We are challenging our current and future students—the keepers of this legacy—to take their place as world citizens and recognize the global impact their innovations can produce.

That is why Armour educates our students to be the leaders in the development and use of multidisciplinary approaches and technology to solve complex, socially critical problems. The current engineering curriculum is being integrated with themes of high priority and societal relevance. This provides Armour students the opportunity to begin exploring topics of global interest while completing their degrees.

Four Challenge Themes for Our Engineers

As IIT engineers, we are building the paths to affect the societal issues of water, security, health, and energy. Students will be able to focus on these specific themes throughout their undergraduate studies by pursuing experiences and courses tied to their chosen themes.

Led by our alumni and faculty networks, we are enhancing the already strong curriculum with lecture series, forums, interactive problem solving, professional site exploration, and team-intensive engineering projects focusing on the four themes. These hands-on experiences help students deepen their collaborative engineering skills and connection to the engineering challenges they will face in their lifetime.

We are committed to excellence in technology-focused education with a renewed emphasis on the entrepreneurial and ethical practice of engineering. This commitment drives every challenge we set forth for our students.

Armour Engineers at Work

At Armour, we believe that the best way to educate engineers is by putting them to work. We expect students to engage in problems that matter and to consider the community impact of engineering.

Through the Interprofessional Projects (IPRO) program built into our curriculum, all IIT engineering students are required to work on a team with students from other disciplines to solve a real-world problem. This approach teaches teamwork and project management from the process of conceptualization through design and implementation, and helps engineers to consider the human context.

Students are offered hands-on research opportunities, on and off campus, as part of the four themes within engineering. The chance to delve deeper into their chosen themes through field research brings the community impact to life for our undergraduate students. This connection to how engineering research and education impacts society is an invaluable component of preparing our students to be distinctive IIT engineers.

Leadership, Ethics, and Entrepreneurship

An Armour education emphasizes the human skills essential to success. Leadership, entrepreneurship, and ethics are built into the curriculum because it takes far more than technical skills to be a successful engineer. Our students learn to lead, communicate, and apply engineering to societal problems in innovative and useful ways that can have global impacts.

Research

At Armour, fundamental and applied research constitutes the backbone for relevant education. Areas of excellence in research conducted by Armour faculty and graduate students include: sustainable energy systems (i.e., power systems and generation, energy-efficient buildings, smart grid), medical imaging, computational analysis and modeling of biological/biomedical systems, transportation engineering (i.e., traffic planning, evacuation models, navigation, robotics), networks and communications (i.e., broadband and wireless networks, cyber security), medical instrumentation, devices and sensors (i.e., diagnostic tools, prosthesis, tissue engineering, biosensors), and advanced materials (i.e., biomaterials, semiconductors, nanomaterials).

Findings and technology from the research laboratories in Armour have a profound impact on undergraduate engineering education. Students receive state-of-the-art knowledge in the classroom and get to participate in highly relevant research projects in the lab.

A Plan for the Future

To prepare better engineers, Armour requires the best possible environment for our students. This means exceptional facilities, outstanding teaching and research faculty, and student access to our programs. We need your support to fund new laboratory and classroom spaces where students will gain hands-on experience working alongside our faculty. Scholarships and fellowships can ensure that IIT and Armour College of Engineering continue to attract the most promising students in the nation and world. Endowed chairs are crucial to both retaining and recruiting the best faculty and researchers. With the help of our alumni and friends we will reach these goals. Please join us in investing in the future of IIT as we educate the next generation of Armour College engineers.