



Distinctive Education Initiative: IIT Engineering Themes

Water, Security, Energy, and Health

Armour College of Engineering has a legacy of distinctive graduates who develop technologies that drive global change. Whether inventing the cell phone and Pentium processor or running a global corporation, IIT students, faculty, and alumni demonstrate that IIT builds better engineers.

Technological solutions that take into account our global economy, education, public health and environmental future are required to address most of the challenges faced by the world today. At Armour, we have introduced the Engineering Themes to enrich the education of our students, as they become the leaders in the development and use of multidisciplinary approaches and technology to solve complex, socially critical problems.

As we continue to challenge IIT students to think as world citizens and know that their innovation can have global impact, the current engineering curriculum is being integrated with themes of high priority and relevance. The IIT Engineering Themes initiative provides Armour students with the opportunity to begin exploring topics of global interest while completing their degree. This initiative was launched in September 2011 with four major themes: **Water, Security, Energy, and Health**.

To build the paths to affect the societal issues of *water, security, health* and *energy*, students focus on these specific themes throughout their undergraduate studies, by pursuing experiences and courses tied to their chosen theme. While learning the fundamentals of engineering in the classroom, on- and off-campus opportunities are available to students to apply their technical knowledge, as they acquire it, to the solution of real problems in real time.

Led by the ACE Distinctive Education Faculty Leadership Team and our Alumni Networks, we are enhancing the 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 issues.

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 theme 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.

Armour College is committed to excellence in technology-focused education with a renewed emphasis on the entrepreneurial and ethical practice of engineering. We recognized that successful engineering education can't be limited to the fundamental concepts learned in the classroom. An Armour education emphasizes the human skills essential to success. Leadership, entrepreneurship, and ethics are built into the curriculum. Our students learn to lead, communicate, and apply engineering to society in innovative and useful ways. Emphasized by the opportunity to apply ongoing learning to current problems of global impact, engineering students at IIT are prepared to make a contribution on day one and a continuing impact throughout their careers.